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ERRATA.

Page 68, 7th line from bottom—read Aves, Pl. LII. for Pl. LVII.
76, 9th line from bottom—read constaté for reconnus.
78, 11th line from top—read rejeté for balloté.
79, 2nd line from top—after scientifique add ainsi que nous l'avons déjà démontré.
81, 17th line from top, read reconnue for reconnu.


Hab. La Jamaique.

84, 7th line from bottom—read Ancylus Chittyi for A. Petitianus.
85, 6th line from top, dele 31. Ancylus Petitianus, etc. Synonyms of Ancylus Chittyi, 6 a, following Ancylus Charpenterianus, p. 81.
87, 12th line from bottom—read Ancylus montanus, moniticola, for Ancylus montani.

88, after the 13th line from top, add—


Hab. Le Cap de Bonne Espérance.

89, 4th line from bottom—after Ancylus radiolatus add Ancylus tenuis, Kurr.; Ancylus Mattiacus, Braun.

93, 14th line from top—read Chittyi for Petitianus.

21st line from top—read Chittyi for Petitianus.
Fig. 7 VENERUPIS PULCHERRIMA. Desh.
Fig. 1. VENUS TUBEROSA. D-4: Fig. 4 TAPES Turgidula.

3. V. JUKESI
4. T. QUADRIRADIATA
5. T. IRIS
6. T. BIRADIATA
Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:

1. Descriptions of New Species of Shells in the Collection of Mr. Cuming. By G. P. Deshayes.

(Mollusca, Pl. XVIII. XIX.)

1. Glauconome rostralis, Desh. (Pl. XVIII. fig. 12.) G. testa elongato-angustâ, depressâ, subæquilaterali, tenui, viridi, antice obtusâ, in medio dilatata, postice attenuata, angulata, subrostrata; latere antico transversim irregulariter striato, postico sulcato; valvis rubris intus albis, ad marginem fusco-rubente pallide pictis, postice zonulâ unicâ obliquâ notatis; sinu pallii angusto, profundissimo, leviter arcuatâ, lateribus suis parallelis, apice obtuso.


2. Glauconome psammotella, Desh. G. testa ovato-transversâ, latâ, lateraliter depressâ, inæquilaterali, antice brevi, obtectâ, postice attenuata, obtuse subangulata, transversim tenue et irregulariter striata, epidermide squalide fusca indutâ, apicibus erosâ; margine dorsali postice leviter arcuatâ et declivi; valvis intus albis; sinu pallii angusto, profundo, apice obtuso, marginibus suis fere parallelis.

Hab. —? Coll. Cuming.

antico longiore, obtuso, postico oblique subangulato, extremitate truncato; vulvā angularis lanceolata, margine acuto circumscripta; lunulā livida angustissima, non impressa, vix distincta; valvis intus violaceis ad margines pallidioloribus.


5. **Dione crocea**, Desh. *D. testa ovato-trigonā, turgidā, cordiformi, inaequaliter, levigatā, politā, tenui, intus exstisque pallide aurantia, ad marginem inferiorem saturatiore; umbonibus tumidis, parum obliquis, acutis, roseis; lunulā vix distincta, magna, ovato-cordatā, lineā tenuissimā circumdatā; ligamento immerso; areā posticali indistinctā, intensiore coloratā; valvis tenuibus; sinu pallii param profundo, trigono, apice obtuso.


6. **Dione phasianella.** *D. testa minimā, transversim sulcata, ovato-transversā, inaequaliter, antice rotundatā, postice angustiore, obtuse angulatā, lateraliter compressiusculā, violaceocastanā, punctulis lineolisve angulosis notatā, biradiatā, radiis albo et fusco articulatis; umbonibus minimis, albis; lunulā minimā, saturate castanā, in medio convexissulā; latere postico lineis fuscis eleganter liturato, sulcis regularibus, depressis, posterius latiores; valvis intus albo-violaceis.

Hab. ——? Coll. Cuming.

7. **Venus Sowerbyi**, Desh. *V. testa ovato-subquadratā, inaequaliter, turgidā, cordiformi, crassissimā, ponderosā, alba, rufo pallido quadriradiatā, antice obtusā, brevi, postice latiore, oblique et late truncatā, longitudinaliter tenue et regulariter sulcata, lunulis brevibus, crassis, crecitis, irregulariter dispositis, crenulatis, postice latiores tenueioribusque, decussatā; umbonibus magnis, cordatis; lunulā magnā, planā, impressā, rufo-purpurascente; areā dorsali elongato-lanceolatā in valvā sinister, maculis magnis costaneis notatā; valvis intus pallide flavicantibus.


ad umbones tenuibus, in medio et ad margines crassioribus, inflexis, sulcis longitudinalibus decussatis et crenulatis, antice posticeque eminentioribus et dentatis; umbonibus tumidos, depressiusculis; lunulâ fucrescente, elongato-cordatâ; valvis intus in fornice croceis; sinu pallii latissimo, profundo; marginibus tenuissime et regulariter crenatis; ligamento profunde immerso.


9. Venus clathrata, Desh. V. testâ magnâ, ponderosâ, solidâ, ovato-transversâ, inequilateralis, crassâ, cordiformi, alba, rufâ pallidi irregulariter maculatâ et subradiatâ, postice rufâ, transversim sulcato-laminosâ, longitudinaliter multi-sulcatâ, decussatâ, costis transversis numerosis, longitudinalibus decussatis; latere antico obtuso, postico latiore truncato, superiore fere recto, inferiore arcuato; valvis intus albis vel pallide flavis, marginibus obsolete crenulatis; lunulâ ovatâ, pallide rufescente, in medio prominulâ, subcarinatâ.


10. Venus consobrina, Desh. V. testâ ovato-subquadratâ, valde inequilateralis, lateraliter compressâ, rufa flavâ, aliquantissimâ per fusco biradiatâ, antice rotundato-obtusâ, postice truncatâ, superne inferneque convexâ, transversim profunde et late sulcatâ; sulcis antice brevioribus, sensim in medio elatiobus, postice laminatis et prominentibus, sulco minore majoribus intermediis; lunulâ ovato-cordiformis, in medio elatiore, subcarinatâ; areâ elongato-angustâ, valvâ dextrâ lamellosâ, sinistra laevâgatâ; cardine lato, crasso; sinu pallii minimâ, brevi, angusto, acute triangulâri.


11. Venus sculpta, Desh. V. testâ orbiculari, globosâ, sub-equatilaterali, turgidâ, solidâ, crassâ, alba, transversim regulariter plicato-sulcatâ; sulcis antice posticeque attenuatis, granulosâ-crenulatâs, granulis antice irregularibus, postice majoribus, in medio costis crenulatis; umbonibus tumidos; lunulâ cordiformi, paululum excavatâ; areâ angustâ, elongato-lanceolatâ, uno latere fusê; cardine lato; sinu pallii brevi, angusto, acuminatâ.

Hab. ——? Coll. Cuming.

12. Venerupis digona, Desh. V. testâ ovato-quadratâ, transversâ, inequilaterali, compressâ, tenui, fragili, candide hyalinâ, antice obtusâ, postice late et perpendiculariter truncatâ, marginibus dorsali et ventrali parallelis, longitudinaliter obsolete striatâ, transversim regulariter lamellosâ, lamellis tenuissimis erectis, postice latoribus, angulum rectum formants.
bus, angulis squamulae eminentiore porrectis; areâ ligamenti planâ, angustâ; sinu pallii triangulari, apice acuto, inaequilaterali, horizontali.


13. Venerupis Cumingii, Desh. (Pl. XVIII. fig. 3.) V. testâ elongato-ovata, inaequilaterali, compressâ, inaequilatervâ, albo-griseâ, corneo-translucidâ, ad apices squalide violaceâ, antice obtusâ, postice latiore, truncatâ; lamellis numerosis erectis, acutis, postice crispis, imbricatis cinctâ, interstitiis levigatis; umbonibus minimis, minutissime longitudinalibus striatis; valvis inaequalibus, deâxtrâ majori, profundiores, in- 


14. Venerupis Chinensis, Desh. V. testâ elongato-transversâ, subtrigonalâ, valde inaequilaterali, candidissimâ, antice obtusâ, declivi, postice angulatâ, subrostrata, longitudinaliter ad umbones tentius et obsolete striata, lamellis distantibus erectis, postice eminentioribus, angulum rectum formantibus, cinetâ; valvis in longitudinem flexuosis; nymphis intus extremitate violaceis; sinu pallii angusto, brevi, acuto, horizontali.


15. Venerupis pulcherrima, Desh. (Pl. XVIII. fig. 7.) V. testâ elongatâ, transversâ, angustâ, cylindraceâ, inaequilaterali, antice brevi, obtruncata, postice truncata, margine superiore inferiori parallelo, longitudinaliter striata, striis postice evanidis, lamellis erectis, brevissimis, antice brevibus, postice albis elevatoribus cinctâ, albo lutescente; umbonibus parceis; areâ ligamenti angustâ, sub-leevigatâ; valvis intus albis; sinu pallii angusto, acuto, horizontali, trigono.

Var. ß. Testâ striis longitudinalibus nullis.


16. Venerupis planicosta, Desh. V. testâ ovato-transversâ, valde inaequilaterali, lateraliiter compressâ, antice brevissimâ, obtusâ, albo-flavâ, postice squalide violascenite, obtusâ, tenuissime et dense striata, striis planis, incisis, lamellis brevibus, irregularibus cinctâ; margine inférieore recto, superiore postice arcuato; valvis intus albis, postice violaceis; sinu pallii minimo, submarginali, triangulari, angulis acutis.


17. Venerupis derelicta, Desh. V. testâ ovata, transversâ, plus minusve angustâ, irregulari, inaequilaterali, depressusculâ, intus extusque roseo-purpureâ vel albescente, longitudinaliter tenue striata, striis incisis, transversim lamellosâ; lamellis brevibus, postice eminentioribus, erectis; umbonibus mininis,
postice angulatis; latere antico brevi, obtuso, postico truncato; cardine angusto, tridentato, altero hidentato; sinu pallii parvo, angusto, brevi, obtuso, submarginali.


18. Venerupis elegans, Desh. (Pl. XVIII. fig. 2.) V. testá elongatá, transversá, angustá, inaequalitari, infílatu-cylindracea, antice attenuatá, breviore, postice latiore, obtuse truncatá, latere postico obtuse angulatá, longitudinaliter tenuissime et eleganter striato-granulosá, transversim multi-lamellósá; lamellís inaequalibus, antice obtusís, crenulatís, postice tenuibus latioribus, minútis crispís; lunulá ovato-elongátá, in medio prominente, rimosá; areá angustá, profundá, canaliculatá; valvis intus albis, marginibus tenuis submarginalibus; impressione pallii sinu brevi, angulato, basi lato.


19. Venerupis siliqua, Desh. (Pl. XVIII. fig. 1.) V. testá elongato-transversá, turgidulá, inaequalitari, albo-lavandulá, anteriuS obtusá, posterius obtuse angulatá, truncatá, transversim inaequaliter striato-sulcatá, sulcis striisque irregidaribus, numerosis, appressís, nonnullis sensim posterius eminentioribus et in laminas breves, regulares, erectas, sese transformantibus; umbonibus minimis, turgidulis; lunulá vix distinctá, in medio prominente; sinu pallii angusto, elongato, apice obtuso.


20. Venerupis mitis, Desh. V. testá ovato-transversá convexiusculá, tenui, inaequaliter, antice declivi, angustiore, obtusá, postice obscure subangulatá, vix oblique truncatá, intus extusque albá, longitudinaliter dense striatá, striis planis, saepius duplicatis, lamellís brevibus, angustís, simplicibus, postice paulo eminentioribus cinctá; margine lunulari prominente, lunulá indistinctá; cardine angusto dentibus tribus minimis instructo; nymphis intus violaceis, sinu pallii angusto, apice acuto, breviusculó.


21. Venerupis paupercula, Desh. V. testá ovatá, compressá, transversá, inaequaliter contortá, antice obtusá, posterius perpendiculariter truncatá, squalide albo-refescente, transversim irregidariter rugosá et striatá, intus albá, postice violacea-maculatá; sinu pallii lato, profondo, apice obtusissimo, horizontali.


22. Venerupis obesa, Desh. V. testá ovatá, transversá, brevi, inaequaliter, infílatu, turgidu, antice declivi, acuminatá, postice obtusá, antice albá, postice squalide violacea, longitudinaliter tener striatá, transversim irregidariter rugosá; striis convexis, saepius undulosis; umbonibus magnís, infiatis, prominentibus, levigatis, oppositis, violaceís; lunulá arcáque nullis;
valvis intus antice albo-flavis, postice violaceis; sinu pallii angustissimo, profundissimo, oblique ad umbones ascendentem.

_Hab._ Port Phillip. _Coll._ Cuming.

23. **Venerupis insignis**, Desh. (Pl. XVIII. fig. 4.) _V._ testá ovato-transversá, subquadratá, valde inaequilaterali, plus minusve inflatá et irregulari, flavá, ad margines rufá, longitudinaliter creberrime et tenuissime liratá, liris in latere postico profundissime angulatis seu divaricatis et inter se conjunctis; latere antico brevissimo, postico paulo latiore, oblique truncato; margine superiore inferiori parallelo; umbonibus obliquis, tumidis, approximatis; valvis intus in medio croceo-rubris, ad peripheriam violaceis; sinu pallii angusto, profundo, apice acuminato, ascendentem.

_Hab._ New Zealand. _Coll._ Cuming.

24. **Circe personata**, Desh. _C._ testá suborbiculato-trigoná, depressá, lenticulari, inaequilaterali, ad umbones compressá, transversim tenue striatá, striis in latere postico evanescentibus, albo-grisés, in medio fusco maculátá, ad margines sæpius lineolatá; maculis in medio sæpius duabus personatis; lunulá areáque minimis, angustis, lanceolatis, atro-castaneis; valvis intus in fornice violaceis, in marginé albis; impressione musculari antíca ovato-oblongá; fossulá laterali valvé destræ usque ad dentem cardinalem prolongatá; impressione pallii ad marginem descendentem.

_Venus scripta_, Chemn.; _Cytherea scripta_, Lank. non Linn.

_Hab._ Indian Ocean; Philippines. _Coll._ Cuming.

25. **Circe pulchra**, Desh. _C._ testá ovato-transversá, subaequilaterali, antice obtusá, postice angustiore, tumídá, solidá, irreguláriter transversim striatá, striis inaequalibus distantibus, pliceiformibus, striis longitudinalibus tenuissimis, obsoletis, decussantibus, albo-grisés, maculis dubius, castaneis, radiantis, in medio separatís; valvis intus albo-grisés, marginibus brunneis; impressione pallii brevissimá, in medio valvarum posítá, simplicé.

_Cytherea elegans_, Sow. (non Koch) _Thes._ Conch. p. 645. pl. 135. f. 163.

_Hab._ Red Sea. _Coll._ Cuming.

26. **Circe transversaria**, Desh. _C._ testá ovato-transversá, subaequilaterali, depressá, antice rotundatá, postice subtruncatá, fusés, sæpius ad umbones albo angulatim maculatá, antice posteique divaricatim rugósá, in medio transversim sulcatá, sulcis rugisque granosis; umbonibus minimis brevibus, oppositis; lunulá elongato-lanceolátá, lined impressá circumscriptá, atratá; valvul subpland, laxigatá, intus alba, in medio violaceo-maculatá.

_Var._ β. _Testá minore, sulcis transversis majoribus._

_Hab._ Philippines. _Coll._ Cuming.
27. **Circe lenticularis**, Desh. *C. testa ovato-subtrigonal, in medio turgid, ad peripheriam acut, inaequilaterali, antice posticeque obtusá, transversim sulcato-plicata, alba, lineolis castaneis, angulatis, vel undulatis, interruptis, ornata; sulcis in laterre postico evanidis; umbonibus depressis, subretusis, divaricatis, notatis; lunulâ angustâ, inaequilaterali, transversim sulcato-plicata, alba, lineolis castaneis, angulatis, vel undulatis, interruptis, ornata; valvis intus pallide croceis; impressione pallii brevissima, in medio valvarum posita.


29. **Meretrix grata**, Desh. *M. testa minimâ, ovato-trigonal, depressiusculâ, inaequilaterali, nitidissima, late profundeque transversim sulcata; sulcis regularibus, rotundatis, interstीtis sub-aequilateralibus separatis, simplicibus, rubescentibus, interstìtibus pallide luteis; umbonibus acutis, parvis, angustis, elatis; lunulâ planâ, ovato-angustâ, elongate, lineâ; areâd planulata, lavigata; valvis intus albis, macula angustâ castanea seu candida; sinu pallii latissimo, semicirculari.


30. **Chione gibbosula**, Desh. *C. testa rotundato-trigonal, obliqua, inaequilaterali, convexiuscula, antice brevi, obtusa, inferne convexa, superne arcuato-gibosa, postice subangulata; alba, postice fusco cerulescens vel radiata, vel pallide violacea; lateribus et apicibus longitudinaliter costatis, rugis transversalibus, undulosis, decussatis, et crenulatis; in laterre postico costis pluribus majoribus, alteris tenue granulosis; lunulâ nullâ; valvis intus albis, impressionibus muscularibus violaceis; sinu pallii horizontali, trigono, acuto, sub-aequilaterali.


31. **Chione regularis**, Desh. *C. testa ovato-trigonal, transversa, turgidâ, inaequilaterali, antice obtusa, postice declivi, subangulata, subrostrata, margine ventrali valde arcuato, flavogrisea, postice nigro-violacea, transversim regulariter et eleganter sulcata; sulcis convexis, equidistantibus; lunulâ elongato-ovata, perplanâ, lavigata, nitente, superne violaceo maculata; areâd parvâ, elongata, lanceolata, planâ; valvis intus albis; cardine antico posticeque violaceo maculato; sinu pallii lato, oblique, brevi, semiovale.

32. **Chione sphéricula**, Desh.  *C. testá orbiculari, subæqui- laterali, turgidâ, subsphaeroidali, candidendissimâ, transversim sulcatâ, sulcis antice posticeque evanidis, in medio convexiusculis, latioribus; umbonibus magnis, elevatis, recurvis, cordatis; lunulâ brevi, impressâ, cordiformi, in medio purpureo-maculâtâ; valvis incrassâtis, intus albis, ad marginem posticum purpureo-maculâtis; sinu pallii brevi, triangulari, æquilaterali, acuto.  
*Hab. ——?*  Coll. Cuming.

33. **Chione ustulata**, Desh.  *C. testá ovato-transversâ, sub-trigond, turgidâ, crassâ, solido, inæquilaterali, antice obtusâ, postice incisis, subtortu, subtus obsoletis, in medio obsolens, ad umbones tenuissimis; lunulâ ovato-elongâtâ, fusâ; areâ ligamenti brevi, parum profundâ, fuscescentâ; valvis intus pallide flavis; margine cardinâ violaceo.  
*Hab. Philippines (Port of Manilla).*  Coll. Cuming.

34. **Tapes inflata**, Desh. (Pl. XIX. fig. 3.)  *T. testá ovato- 
transversâ, subæquilaterali, inflâtâ, turgidâ, subcordiformi, transversim regulariter sulcatâ, nitente, rufos-flavescente, punctulis lineisruscis, rariss diverso modo variëgatâ et subradiâtâ, transversim irregulariter sulcatâ, sulcis triangularibus, in medio obsoletis, ad umbones tenuissimis; lunulâ ovato-elongâtâ, fusâ; areâ ligamenti brevi, parum profundâ, fuscescente; valvis intus pallide flavis; margine cardinâ violaceo.  

35. **Tapes turgidula**, Desh. (Pl. XIX. fig. 4.)  *T. testâ ovatâ, transversâ, inæquilaterali, turgidulâ, antice attenuâtâ, breviore, angustiore, postice superfine rotundâtâ; umbonibus parvis ma-
culâ alba notatis; valvis rufis, maculis punctisque fuscis sub-
quadradriadiatis, tenue transversim sulcatis, sulcis antice tenui-
ribus, sensim in medio et in latere postico majoribus, et posteri-
rus lanellosioribus; lunulâ elongato-lanceolâtâ, fusâ, in longitudi-
nem concavâ et striâtâ; areâ ligamenti angustâ, brevi, utroque latere canaliculâtâ, lateraler maculâ fusâ notâtâ; valvis in-
tus croc gestures; sinu pallii lato, parum profundâ, apice obtuso; valvae sinistre denti mediano profundissimâ bipartito.  

36. **Tapes similis**, Desh.  *T. testâ ovatâ, transversâ, depressâ, inæquilaterali, extremitatibus obtusâ, transversim tenue sulcatâ, rufis, apicibus rubrâ, levigatâ, maculis ravis castaneis tri-
radiatis, lineis anguloâ, distantibus, obsoletis notatâ; umboni-
bus minimis, oppositis; lunulâ elongato-lanceolâtâ, levigatâ, rub-
bro-lineolâtâ; areâ angustâ, depressâ, lanceolâtâ, lividâ; valvis intus in forâque rufis.  
*Hab. ——?*  Coll. Cuming.
37. **Tapes alba**, Desh. *T. testá ovatá, transversá, inaequilaterali, turigidulá, antice obtusa, postice latiore, oblique truncatá, crassá, solidá, intus extusque candidá; umbonibus brevibus, depressis, vix oblóquis, oppositis; lunulá elongato-angustá, vix perspicuí, irregulariter striatá; areá angustissimá, vix depressá; valvis extus irregulariter sulcatis, sulcis in medio depressá; sinu pallii brevi, angusto, apice attenuato, semielliptico.

*Hab.* Western Australia (Swan River). **Coll.** Cuming.

38. **Tapes obscurata**, Desh. *T. testá ovato-transversá, oblongá, inaequilaterali, tumidulá, squálide ryfescente, maculis minimis, unidentatís, fuscis obscurá, radiis quatuor fuscí, subarticulatís notatá, transversim tenue et regulariter sulcátá; sulcis antice angustioribus, in medio et ad latus posticum sensim latoribus; latere antico brevi, angustato, subangulato, postico latiore, obtuso; valvis tenuibus, intus pallide croceís; sinu pallii profundo, oblique ascendente, apice obtuso, marginibus parallelís.

*Hab.* ? **Coll.** Cuming.

39. **Tapes biradiata**, Desh. (Pl. XIX. fig. 5.) *T. testá ovato-transversá, tumidulá, inaequilaterali, extremitatis obscurá flavescente, antice posticeque maculis minimis, pallide fuscis griseás, radiis duobus castaneis, latís, interruptis ornatís, transversim et regulariter tenue sulcátá; sulcis antice minoribus, in medio latioribus eminentiáriusque, postice angustioribus et leviter unduláti; lunulá lividá, concává, levigátá, vix distinctá; areá elongato-laciniatá, planá, levigátá, lividá, lineis violaceis lituratá; valvis intus albis; margine cardinali antice et postice violaceo maculato; sinu pallii angusto, obtuso, marginibus parallelís.

*Var. β. Testá minore, turgidiore, radiís evanescentibus; valcis maculis minimis et lineis angulosis irregularibus ornatis.

*Hab.* Philippines (Puteao). **Coll.** Cuming.

40. **Tapes quadriradiata**, Desh. (Pl. XIX. fig. 6.) *T. testá transversá, elliptículá, tur gidulá, inaequilaterali, utroque latere obtectá, antice angustiusculá, albo-luteá, lineis fuscís, angulatis, numerosís densissimís pictás et quadriradiatá, radiís maculis quadratis fuscís et albis subarticulatís; striís transversis regularibus numerosís, depressiusculí, postice planís et latoribus; lunulás fuscí-violascentes, elongato-angustás, politás, fuscís dense lineolatás; areá angustá, excavátá, in medio maculá violaceo-lividá notatá; valvis intus pallide luteís; sinu pallii lato, semielliptico.

*Hab.* Philippines. **Coll.** Cuming.

41. **Tapes grata**, Desh. *T. testá ovatá, transversá, inaequilaterali, compressá, antice angustiore et breviore, postice latiore, obtusá, transversim eleganter tenue sulcátá, albo-flavescente eleganter lineís fuscís tenuíbus reticulatá et obsolete radiatá,
inferne maculis majoribus albo-flavescentibus trigonis delineatis; umbonibus minimis; lunulâ lanceolatâ, levigatâ, fuscescence litoratâ; areâ posticali elongato-angustâ, maculis transversalibus notatâ; valvis tenuibus, intus pallide eroseis; pallii sinu horizontali, profundo, elliptico.


42. Tapes punicea, Desh. T. testâ ovato-transversâ, inequilaterali, convexiusculâ, antice breviore, obtusâ, attamen attenuatâ, latere postico latiore, obscure subtruncato, fulvo vel fuscò punctatâ, irregulariter saturatâ, maculis albis minimis irregulariter irroratâ, longitudinaliter tenui, sulcis inaequalibus, posticis latioribus, aliquando duplicatâ, sulcis transversis decussatâ, in medio simplicibus; lunulâ vix perspicue, elongato-lanceolatâ, per longitudinem striatâ; valvis intus vivide roseo-purpureis; margine cardinali postice violaceo-maculato; sinu pallii, parum profundo.


43. Tapes violascens, Desh. T. testâ ovato-angustâ, transversâ, valde inaequaliter, subrhombée, depressâ, marginibus superiore et inferiori parallélis, latere antico brevi, oblique declivi, postico oblique truncato, extus longitudinaliter striatâ, striis transversalibus antice et postice decussatâ; striis longitudinalibus posticalibus latioribus, grano-so-asperatis, mediâns simplicibus; lunulâ elongato-lanceolatâ, planâ, vix distinctâ, levigatâ; cardine angusto, postice violaceo, dentibus tribus subaequalibus; valvis extus pallide violaceo-griseis, albo triradiatis, intus rufo-violaceis; sinu pallii lato.

Hab. ——— Coll. Cuming.

44. Tapes Japonica, Desh. T. testâ ovato-transversâ, angustâ, turgidulâ, inaequaliter, antice angustâ, obtusâ, postice subtruncatâ, longitudinaliter tenue striatâ, striis inaequalibus, posticis et anticis latioribus, striis transversis decussatâs et granulosis; lunulâ vix perspicue, ovato-lanceolatâ; areâ minimâ, pland, levigatâ; valvis albo-griseis, maculis magnis, irregularibus, ruﬁs in latere postico marmoratis, intus pallide ﬂavidos; sinu pallii brevi, obtuso, basi dilatato.


45. Tapes Fabagella, Desh. T. testâ elongato-transversâ, inaequilaterali, compressinscululâ, intus extusque candidi, tenui, fragili, antice breviore, obtusâ, postice latiore, oblique truncata, margine superiore recto, inferiori arcuato, exilissine striatâ, striis transversis regularibus, in latere postico multo rarioeribus, lamellosis; umbonibus parvis levigatis; lunulâ ovato-lanceolatâ vix perspicue; sinu pallii magnô, profundo, basi lato, trigono.

AMBYOSTOMA CALIFORNIENSE Gray
2. On a New Species of Salamander from California.

By J. E. Gray, Ph.D., F.R.S., V.P.Z.S.

(Reptilia, Pl. VII.)

Mr. Henry Gurney most kindly sent to the Zoological Society for exhibition some Reptiles, from Monterey in California, with the desire that the specimens should afterwards be placed in the British Museum. Among the rest was a very fine and large specimen of a Triton, which has much the external appearance of the large white-spotted *Ambyostoma Carolina* of the eastern part of the United States of America. On more minute examination and comparison, it proved to be quite distinct; and as I do not find any description of it in any of the American papers on these animals, I have sent a comparative description of the two species.

1. **Ambyostoma Carolinae**, Gray, Cat. Amph. B. M. 35.

Brown; small spot over orbit, large spot on each side the occiput, on each leg near the joint, and a series down each side of the back and tail, white; palatine teeth in a short, nearly straight line, between and not reaching to the internal nostrils, and with a separate small group of teeth behind each internal nostril.

2. **Ambyostoma Californiense**.

Black; sides of lips, lower part of neck, body and tail, and limbs, with large white spots; palatine teeth in an elongated angular transverse line, bent forwards in the middle and extending to the outer edge of the hinder part of the internal nostril.

*Hab.* California, Monterey, in a well (*Gurney*).

A smaller white spot on each side of the back, not symmetrical; the one on the right side being much in front of the other.

*Ambyostoma punctulatum*, Gray, Cat. Amph. B. M. 37, has the tongue free on the side, and is nearly allied to the genus *Plethodon*; the palatine teeth are very indistinct, not forming a regular ridge.
3. **Description of a New Species of Tortoise (**Testudo planiceps**), from the Galapagos Islands.**

By J. E. Gray, Ph.D., F.R.S., V.P.Z.S., P.B.S. etc.

After the examination of the specimens of the large Black Tortoise (**Testudo Indica**), in the various English and continental collections, including the specimens which had served Schweiger, Schlegel, Fitzinger, Dumeril and Bibron, and others, as the types of species, I placed them all in the ‘Catalogue of the Tortoises, Crocodiles and Amphisbaenians in the Collection of the British Museum,’ as varieties of a single, very variable species, which had been scattered by man in different tropical parts of the globe. I see no cause to change my opinion with respect to the head now about to be described, even should it prove to be that of a black species, which is possible, as the black species is the only one known which has any affinity to it in point of size. The skull now described was sent to Haslar Hospital, and said to have been taken from a specimen brought from the Galapagos Islands. The Black Tortoise of those islands has been described by Dr. Harlan under the name of **Testudo elephanto**pus; but his figure and description so exactly agree with the adult **Testudo Indica,** and the specimen in the Gardens of the Zoological Society brought from the Galapagos Islands, is so exactly similar to the specimen of **Testudo Indica** from the Mauritius, that I cannot think that the usual Galapagos Tortoise is different from that species, or like the skull here noticed. I therefore propose to designate this species by the provisional name of **Testudo planiceps.** The following comparative statement of the characters presented by this skull and that of **T. Indica,** will show the differences which exist between them.

<table>
<thead>
<tr>
<th><strong>Testudo Indica.</strong></th>
<th><strong>Testudo planiceps.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skull high, convex.</td>
<td>Skull much-depressed, flat.</td>
</tr>
<tr>
<td>Forehead convex, rounded to the nose-cavity; broad between the eyes.</td>
<td>Forehead flat, with a rapid declivity towards the nose-cavity; narrow between the eyes.</td>
</tr>
<tr>
<td>Temples flat behind.</td>
<td>Temples produced, bent in behind.</td>
</tr>
<tr>
<td>Cheeks small, four-sided.</td>
<td>Cheeks large, subtrigonal.</td>
</tr>
<tr>
<td>Edge of the jaw between the nose-cavity and the mouth narrow and rounded.</td>
<td>Edge of the jaw between the nose-cavity and the mouth high and erect.</td>
</tr>
<tr>
<td>Nose-cavity oblong, nearly twice as high as broad, contracted on each side above.</td>
<td>Nose-cavity nearly square, scarcely higher than broad, and very little contracted above.</td>
</tr>
<tr>
<td>Palate broad, oblong, very deeply concave, and with concave converging sides in front.</td>
<td>Palate narrow, nearly lozenge-shaped, truncated behind, rather deeply concave, with straight converging sides in front.</td>
</tr>
</tbody>
</table>
**Testudo Indica.**

Sphenoid bone deeply concave beneath, under the condyle.
Lower jaw narrowed and rounded in front, not more than half as high as behind.

**Testudo planiceps.**

Sphenoid bone flat beneath, under the condyle.
Lower jaw convex and erect in front, and as high as behind.

These descriptions are taken from skulls of nearly the same size, as proved by the following measurements:

<table>
<thead>
<tr>
<th></th>
<th>Testudo Indica</th>
<th>Testudo planiceps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from condyle to front of lip</td>
<td>5(\frac{1}{2})</td>
<td>5(\frac{1}{2})</td>
</tr>
<tr>
<td>—— from occipital crest to nose-cavity</td>
<td>5(\frac{1}{2})</td>
<td>5(\frac{1}{2})</td>
</tr>
<tr>
<td>—— of palate concavity</td>
<td>3(\frac{3}{8})</td>
<td>2(\frac{3}{8})</td>
</tr>
<tr>
<td>Width at condyles</td>
<td>4</td>
<td>4(\frac{1}{2})</td>
</tr>
<tr>
<td>—— at ends of temporal bones</td>
<td>4(\frac{3}{8})</td>
<td>3(\frac{3}{8})</td>
</tr>
<tr>
<td>—— of palate concavity in middle</td>
<td>1(\frac{3}{8})</td>
<td>1</td>
</tr>
<tr>
<td>—— between orbits</td>
<td>2</td>
<td>1(\frac{3}{8})</td>
</tr>
<tr>
<td>Height from back of upper lip to top of head</td>
<td>2(\frac{5}{8})</td>
<td>1(\frac{3}{8})</td>
</tr>
<tr>
<td>—— of front of lower jaw</td>
<td>2(\frac{1}{8})</td>
<td>1</td>
</tr>
<tr>
<td>Length of nasal opening</td>
<td>2</td>
<td>1(\frac{1}{16})</td>
</tr>
</tbody>
</table>

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January 25, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

A portion of a letter from Mr. Louis Fraser, H.M. Consul at Whidah, was read, in which the writer mentioned that he had received accounts of the occurrence of a large Ape in the vicinity of Fernando Po. He says it has only been brought down to the colony on two or three occasions. The natives call it *Tap-par-po-har*, and suppose it to be a Chimpanzee; but from the description they give of it, he thinks it must be a *Cynocephalus*. The people say it is as large as a man, that it has a long head and a very short tail, and that it barks like a dog. He adds that there are curious tales current about the animal, which he will endeavour to collect.

The following papers were also read:

1. **Descriptions of Two New Birds, from Fernando Po.**
   **By Louis Fraser.**

   **Bubo Poensis**, Fraser.

   Brownish yellow, each feather barred with brown, the brown predominating on the crown, shoulders and middle of the back; tail
above barred with brown and greyish brown alternately; twelve bars of each colour.

How-oo-ar, valvis dentibus legs cries, area gape, skin lamina lays upper

Descriptions tail, umbonibus flies, have this Makes These medio Mactra is the wing, lunula tarsi, margine Oko.'

Killed in June. The specimen from which the above description was taken is the only one that has been seen by the town's-people; consequently I presume it is very scarce, at least in this part (Clarence) of the island. The natives say it destroys fowls, which here roost in the trees.

Native name 'Oko.' This is evidently a generic term, as the same name is applied to my Strix Poensis.

Buceros Poensis, Fraser.

Female by dissection. Head and neck maroon, the feathers of the head standing out in apparent disorder, as in Buceros comatus; the rest of the plumage black, the back and tail having bronze reflections; the four outer tail-feathers terminated with white.

Cere cerulean-blue; upper part of throat-sac French-white, middle a blending of French-white and blue, terminated with cerulean-blue; these fleshy parts are much wrinkled; legs and feet deep blue.

Total length 30 inches; gape, 6; wing, 14½; tail, 13; tarsi, 1¾. Hab. Fernando Po.

Killed in the month of July, in deep mount.

Native name, 'Oon-cot-to.' The natives say it cries, as it flies, 'How-oo-ar, how-oo-ar, how-oo-ar.' Very shy. Makes its nest in holes of very large trees, in the dry season; lays two eggs. These birds used to be common in the neighbourhood of Clarence, but since the introduction of guns they have been much shot, and have retired to the mountain.

Palm oil nuts, only, were found in the gizzard, which was soft, almost like a stomach; skin very thin and difficult to prepare. Between the skin and body appeared to be air-cells.

The male is said to differ materially, but I have not been fortunate enough to procure a specimen.


1. Mactra Complanata, Desh. M. testa transversim trigona, depressa, aequilaterali, securiformi, leavigata, alba, utroque latere aequaliter obtusa; latere antico posticali aquante; margine inferiore acuto, regulariter arcuato; lunula magna, elongato-lanceolata, sulco impresso circumdata, in medio prominente; area elongata, ovato-lanceolata, impressa, plana, angulo duplici circumscripta; umbonibus parvis, recurvis, acuminatis; valvis tenuibus, intus candidissimis; lamina cardinali lata, tenui; dentibus lateraliib brevibus, lamellosis, triangularibus, abrupte truncatis; sinu pallii brevi, semielliptico, descendentem. Hab. Indian Ocean. Coll. Cuming and Deshayes.
2. **Mactra sulcataria**, Desh. *M. testa ovato-transversa, subaestivali, turgidula, utraque extremitate aestivali obtusa, transversim sulcata, ad apices levigata, flava; umbonibus depressis, violaceis, albo triradiatis, lunula areaque magnis, eleganter plicatis; valvis intus albo-flavescentibus; cardine angusto; foveola ligamenti obliqua; dentibus lateralisibus compressis, brevibus.***

*Hab.*** —? Coll. Cuming.

3. **Mactra Reevei**, Desh. *M. testa rotundato-trigona, inflata, solida, subaestivali, transversim obsolete striata, epidermide tenui, straminea, tenue striato-lamellosa, vestita, albo-rufescente, maculis sparsis, inaequalibus, fuscis ornata, postice castaneo maculata; latere antico paulo breviore late rotundato; postico attenuato declivi, brevi, truncato; umbonibus prominulis, approximatis, cordiformibus; lunula cordiformi, plana, levigata; area magna, planulata, angulis duobus distantibus circumscripta; cardine crasso; fossula basi producta; sinu pallii brevissimo, semicirculari; valvis intus albis, in latere postico fusco maculatis.***


4. **Mactra pura**, Desh. *M. testa ovato-trigona, depresso-cuneata, crassa, solida, aestivali, in medio gibbosior, transversim inaequaliter et obsolete striata, candidissima, sub epidermide tenui flavescente; umbonibus brevibus, depressis; latere antico obtuso, postico subangulato; lunula obsolete circumscripta, ovato-elongata, eleganter plicata; area magna, angulo obtuso circumdata, linea impressa, marginata, plicata; sinu pallii brevissimo, angusto, subsemicirculari.***

*Hab.*** Australia. Coll. Cuming.

5. **Mactra quadrangularis**, Desh. *M. testa ovato-subquadragulari, tenui, tumida, cordiformi, subaestivali, superfine inaequaliter convexa, squalide albo-grisea, epidermide flavescente, tenuissima, vestita, transversim striata, ad umbones levigata; latere antico subtruncato, lato, posticali subaequante; umbonibus tumidis, oblique cordatis, approximatis; lunula non circumscripta, eleganter plicata; area ovata, zonula levigata, circumdata, in medio plicata; valvis tenuibus, intus squalide albis, postice rubro-violascencte maculatis; cardine angusto, dentibus lateralisibus lamellosis; sinu pallii brevi, subtrigo, apice obtuso.***


6. **Mactra veneriformis**, Desh. *M. testa orbiculato-subtrigona, inflata, convexissima, cordiformi, subaestivali, antice obtusa, postice longiore, angulata, transversim regulariter striata, ad umbones levigata, squalide alba vel grisea, postice intus ex tuaque violacea maculata; latere antico lato, obtuso, postico declivi, plano, angulo obtuso inferne terminato; umbonibus tumidis, prominentibus, oblique cordatis; lunula areaque latis, ovatis, regulariter plicatis; valvis intus albis; cardine angusto, dentibus lateralisibus brevibus, crassis, prominentibus, aequalibus; sinu pallii brevi, lato, subsemicirculari.***

*Hab.*** Seas of China and Japan. Coll. Cuming and Deshayes.
7. **Mactra cornea**, Desh. *M. testa magna*, ovato-trigona, tur- gidula, tenui, inequilaterali, transversim tenue et irregulariter striata, squalide corneo-flavida, intus alba pallide violascente, zonulis saturatoribus interrupta; latere antico breviori, late obtuso, subsemicirculari, latere postico attenuato, superne longe declivi, recto, inferne obtuse angulato; margine inferiore regulariter convexo; lunula plana, indistincta, tenue striata; area elongato-lanceolata, excavata, angulo obtuso circumdata; umbonibus angustis, acutissimis, prominentibus, oblique incurvatis, violaceolividis; cardine lato, tenui; dentibus lateralis lamellosis, latis, postico longiore, cardine proximo; sinu pallii brevissimo, lato, obtuso, basi dilatato.


8. **Mactra eximia**, Desh. *M. testa ovato-transversa*, equilate- rali, utroque latere æqualiter obtusa, levigata, polita, epidermide decidua, flavescente vestita, pallide rufescente, eleganter albo multiradiata, radiis inæqualibus, inæqualiter distantibus; lunula magna, ovata, in medio carinata, areaque eleganter plicatis; um- bonibus tumidulis, acutis, oppositis; valvis tenuibus, intus albis; cardine angusto; dentibus lateralis magnis, lamellosis, inæqualibus, antico majore; sinu pallii brevissimo, lato, regulariter arcuato.

*Hab.* Australia (Moreton Bay). *Coll.* Cuming.

9. **Mactra mera**, Desh. *M. testa ovato-trigona, turgidula, levigata, nitida, inequilaterali, corneo-flavicante, ad umbones rubescents*, zonulis transversalis saturatoribus, distantier interruptis, intus corneo-rufescente; latere antico paulo breviori, obtuso, superne declivi et convexiusculo; latere postico attenuato, valde declivi, umbones versus convexiusculo; umbonibus depressis, parum obliquis, approximatis, acutis; lunula areaque ovatis, tumi- dulis, regulariter plicatis; linea ventrali pallii latissima; sinu postico brevi, obtuso, ad apicem parum dilatato; dentibus laterali- bus magnis, compressis, lamellosis, in valva dextra duplicatis.


10. **Mactra obesa**, Desh. *M. testa ovato-trigona, inæquilaterali, crassa, tumida, cordiformi, antice obtusa, postice angulata, levigata, alba, sub epidermide tenuissima grisco-flavescente, tenue et regulariter striata; umbonibus tumidulis, oblique cordatis; area lunulaque ovatis, regulariter striato-plicatis, planis; valvis crassis, intus albis; sinu pallii brevi, lato, semielliptico; dentibus laterali- bus compressis, antico breviore, eminentiore.

*Hab.* Torres Straits. *Coll.* Cuming and Deshayes.

11. **Mactra meretriciformis**, Desh. *M. testa ovato-trigona, inflata, turgida, cordiformi, inæquilaterali, levigata, albo-grisea, apicibus atro-violacea, epidermide fuscescente, transversim striata, vestita, antice obtusa, postice angustiore, angulata; latere antico lato, plano, regulariter sulcato; area elongato-ovata, angulo ob- tuso circumdata, eleganter sulcata; umbonibus tumidis, promi- nentibus, oblique cordatis; valvis crassis, intus lilacinis; cardine
angusto, in medio prominentior; dentibus lateralis lamellosis, antico breviore et eminentiore; sinu pallii brevi, lato, vix inflexo. 

12. MACTRA CUVIERI, Desh. M. testa ovato-trigona, tenui, fragili, tumidissima, cordiformi, inaequilaterali, transversim irregu-
lariter et obsolete striata, cuticula tenissima, pellucida, facets-
cente vestita, alba, radiis rubescentibus, roseo maculatis picta; umbonibus tumidis, cordatis, involutis, oppositis, separatis; latere antico longiore, tumido, dilatato, obtuso; lunula magna, ovata, concaviscula, tene et regulariter striata; latere postico brevi, declivi, sensim attenuato, subrostrato, cuticula tenuissima, palliae vestita, alba, radiis rubescentibus, roseo maculatis picta; 

13. MACTRA AQUILATERALIS, Desh. M. testa triangulari, equi-
laterali, tumida, lavigata, antice striata, albo-grisea, cuticula flas-
vescente vestita, antice posticeque angulata, latere antico posticali subequante, latere postico plano, lato, angulo acuto circum-
scripto; lunula permagna, depressa, arcuque lavigatis; valvis crassis, intus nitidis, albo-griseis; cardine angusto, crasso, brevi; dente cardinali parvo, dentibus lateralis crassis, brevis, antico longiore; sinu pallii lato, brevissimo. 

14. MACTRA SYMMETRICA, Desh. M. testa trigona, aequilatere, turgidula, lavigata, nitida, ad marginem inferiorem transversim sulcata, pallide flavicante, lateribus aequilatere declivibus et atte-
nuatis, superfine convexiusculis, margine inferiore regulariter ar-
cuato; lunula arcuque aequilibus, elegantueri striato-plicatis, plicis ad peripheriam abrupte terminatis; umbonibus minimis, acutis, oppositis, antice macula violacea notatis; cardine angusto, fossula brevi, lata, dentibus lateralis subsqualibus, parum prominenti-
bus; sinu pallii brevi, angusto, obtuso, horizontali. 

3. DESCRIPTIONS OF TWO NEW SPECIES OF CLEMENTIA,
IN THE COLLECTION OF HUGH CUMING, ESQ.
BY G. P. DESHAYES.

1. CLEMENTIA STRANGEI, Desh. C. testa ovato-subtrigona, ob-
lique inaequilaterali, tenui, papyracea, candida, translucida, trans-
versim regulariter intus extusque plicata et obsolete striata, antice brevi, lata, obtusissima, postice angustiore, obtusa; umbonibus prominulis, parum obliquis; lunula vix distincta, depressa; area angusta, sublevigata; sinu pallii elongato, triangulari, ad apicem convexiusculo, oblique ascendente. 

No. CCXLIX.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.
2. **Clementia Moretonensis**, Desh. *C. testa ovato-subtrigona, turigidula, inaequilaterali, candida, opaca, calcarea, transversim irregulariter rugoso-striata, punctis confusis, irregularibus, dense aspersa; latere antico brevi, lato, obtuso, postico declivi, obtuso; umbonibus acutis, prominulis, obliquis; lunula depressa, ovato-oblonga, vix distincta; area profunda, leevigata, angulo obtuso circumdata; valvis tenuibus, fragilibus, intus candidissimis; sinu pallii maximo, trigono, basi late aperto, lateribus angulum fere rectum formantibus.

*Hab.* Australia (Moreton Bay). Coll. Cuming.

February 8, 1853.

John Gould, Esq., F.R.S., in the Chair.

The following papers were read:—

1. **Descriptions of some New Species of Entozoa from the Collection of the British Museum.**

   By W. Baird, M.D., F.L.S.

   (Annulosa, Pl. XXX. XXXI.)

   **Class Entozoa.**

   **Order Nematoidea.**

   **Family Ascaridæ.**

   **Genus Ascaris.**

   1. **Ascaris similis.**


   Head small; mouth with three small valves slightly projecting beyond the margin. Anterior portion of body much narrower than posterior. Tail rounded, thick, obtuse. Females spirally twisted in many convolutions; of a dark olive colour. Males straight to within a short distance of tail, which is inflected; of a whitish colour. Skin of body minutely and finely striated across. Wing extending along the whole length and becoming thicker and stronger at inferior extremity. Length of male 2 inches, breadth 1 line. Length of female 1½ inch, breadth ¾ of a line.

   This species resembles the *A. osculata* from the *Phoca vitulina*, but differs in having the wing stronger and thicker at inferior extremity, in having the head and mouth smaller, and in the skin of the body being finely striated across.

   *Hab.* Stomach of a Seal from Antarctic Seas; collected during the late Antarctic expedition. Brit. Mus.
2. Ascaris levissima. (Annulosa, Pl. XXX. fig. 1.)


Head small, in form of a narrow circular rim; valves of mouth large and distinct, of a triangular shape, divided at the tip into two lobes, each of which again is broadly emarginate. Between each of the valves, at their base, is a small smooth tubercle or prominence. Body round, very smooth, of a rather dark olive colour, marked with numerous very fine smooth longitudinal lines, and occasional very distinct red circular lines at irregular distances; tapering at both extremities, narrower at posterior extremity. On each side of the body is a smooth narrow band of a lighter colour, which runs the whole length, and has the appearance at first sight of a wing, but is not raised. Length 10 inches; greatest breadth 4 lines.

Hab. ——? India; from the Collection of General Hardwicke.

Brit. Mus.

3. Ascaris bifaria.


Head rather small; valves rounded, wrinkled transversely and slightly bifid at the upper margin. Body round, much narrower at anterior than posterior extremity. Anterior third of body surrounded with numerous very close-set, circular, raised striae. Remainder of body smooth, with the striae not raised and about one-fourth of a line apart from each other, till within about half an inch of inferior extremity, which is large and obtuse, when it again becomes surrounded with numerous raised circular lines or striae which give it a wrinkled appearance. The tail terminates in a papilla, and the anus is lunarshaped and situate at the base of the papilla about half a line from the extremity. The whole surface, in addition to the raised lines or striae, is covered with exceedingly fine and immensely numerous striae. A line runs down each side of the body throughout its whole length. Length 9 inches, breadth 5 lines.

Hab. ——? From Korea. Collected by Capt. Sir E. Belcher, C.B.

Brit. Mus.

Family Gordiidae.

Genus Mermis.

1. Mermis spiralis.

Mermis spiralis, Baird, Cat. Entoz. Brit. Mus. 35. t. 1. f. 3.

About 7 inches in length and $\frac{1}{2}$ mill. in breadth; of a red colour, rigid and twisted into many spiral convolutions. Anterior and posterior extremities obtuse. Body of equal size throughout and quite smooth.

Hab. Abdomen of a species of Grasshopper from Rio Janeiro.

Brit. Mus.

2. Mermis rigidus. (Annulosa, Pl. XXX. fig. 2.)


Body of a light amber colour, smooth and very shining, narrow at upper extremity, very soon becoming thicker and terminating at
inferior extremity in an obtusely conical point. The animal is very rigid and stiff throughout its whole length. Length 10½ inches, breadth about ½ a line.


**Genus Gordius.**

A. Body smooth.

1. **Gordius platyura.**


Body of a uniform dull white colour, quite smooth, with a depressed line on one side throughout its whole length, obscurely ringed at unequal distances, narrower at anterior extremity and terminating in a broad flattish tail, which is slightly bifid. Length of animal 32 inches, breadth of middle portion of body about ½ a line; tail 1 line broad.


B. Epidermis granulated.

2. **Gordius verrucosus.**


Body black, covered all over with innumerable small, raised warty papillae, round and very stiff like a piece of wire. An impressed line runs on each side through the whole length. Head small. Anterior extremity narrower than posterior. Length 6 inches, breadth about ½ a line.


3. **Gordius violaceus.** (Annulosa, Pl. XXX. fig. 3.)


Body of a dark brown colour; apparently smooth, but under a high magnifying power completely covered with small flattish-looking papillae, and ringed transversely with very slightly raised circular lines, about one-half or one-third of a millimetre apart from each other; tapering slightly at upper extremity, and gradually becoming thicker at inferior. Along the whole length of the body, on each side, runs a pretty deep sulcus or groove, interrupting the circular lines. Length 11 inches 3 lines, breadth about ½ a line.


4. **Gordius pustulosus.** (Annulosa, Pl. XXX. fig. 4.)


Body of a light brown colour, not ringed across, completely covered with minute flattish-looking papillae, and numerous larger raised dots or small warty protuberances intermixed, tapering considerably at superior extremity, and becoming gradually thicker towards the tail, which is obtuse and marked across with a deep indentation.
Along the whole length of the body runs a deep groove on one side only. Length 8½ inches, breadth \( \frac{1}{2} \) mill.


When brought to the Museum it had just emerged from the _Blaps_, and was then 4 inches long and about the diameter of a horse-hair. It was placed in water and kept alive for a day or two, at the end of which time it had grown to double its original size, in both length and diameter.

5. **Gordius sphærura.** (Annulosa, Pl. XXX. fig. 5.)


Male: nearly black, quite smooth, flattened throughout its whole length, and nearly of equal size throughout. Length 16 inches, breadth \( \frac{1}{2} \) a line.

Female: of a dark brown, smooth, but rather deeply notched across, the notched lines occurring now on one side, now on another, but never going quite round the body, and at times presenting an appearance as if it were divided into numerous segments. The body is of nearly equal size throughout its length till it reaches the tail, which is somewhat swollen and club-shaped. Length 14 inches, breadth about \( \frac{1}{2} \) line.


6. **Gordius fasciatus.** (Annulosa, Pl. XXX. fig. 6.)

Body smooth, skin prettily shagreened with very fine lines crossing each other in opposite directions, of a light colour banded with broad patches of dark brown. Anterior extremity smaller than posterior, and roughened with raised circular ridges, which extend for about three lines, and as well as posterior extremity of a very dark colour, almost black. Length 1\( \frac{1}{2} \) inches, breadth about 1 millimetre.

Only one specimen \( \varphi \).


**Order Acanthotheca.**

**Genus Pentastoma.**

1. **Pentastoma megacephalum.**


Female: body yellowish white, somewhat depressed and terminating anteriorly in a large, thick, club-shaped head. The dorsal surface is depressed at the edges, rounded and very prominent in the centre and transversely ridged. The ventral surface is more flattened, ridged and wrinkled; with the mouth in a hollow depression, surrounded by four strong, brown, simple hooks. The part of the body immediately beneath the head is very strongly ridged.
transversely, each of the first six ridges being wavedly wrinkled. The length of the whole body is about 11 lines. The head is 5 lines broad, and the middle portion of the body about 3½ lines, diminishing in size towards the tail. The oviduct is very long, the portion outside the body being 2 inches in length.

Male? Longer than female, about 14 lines long; covered with a smooth skin which is slightly ridged across, and has at its inferior extremity a small sharp papilla, about ¾ of a line in length and brown at the tip (the penis?). The inferior extremity is rounder than in the female, but otherwise the form of the animal is nearly the same.

_Hab._ Imbedded in the flesh of the head of a Soonderbund Crocodile, _Crocodilus palustris_, from India. Brit. Mus.

2. *Pentastoma annulatum._ (Annulosa, Pl. XXX. fig. 7.)


Body white, elongate-cylindrical, nearly of the same size at each extremity, strongly ringed; rings raised, about twenty-eight in number, one line distant from each other. A dark blue line runs through the whole length of body on one side. Circumference of body 5 lines, length of body 2½ inches.

_Hab._ In the lungs of the Egyptian Cobra, _Naja Haje_. Collection of Dr. Crisp.

**Order Trematoda.**

**Genus Distoma.**

1. *Distoma microcephalum._


Body of an elongated oval or lanceolate shape, of a slightly yellowish white colour, plicated transversely, the folds being very fine; head narrow, obtuse, separated from the body by a contraction; posterior extremity obtusely lanceolate; dorsal surface slightly convex; ventral surface nearly flat or somewhat concave; anterior sucker small, terminal; ventral sucker larger, round, prominent, surrounded by an elevated thickened edge, and situated within 3 millimetres of the former; organs of generation placed half-way between the two suckers in the form of an elevated papilla. Length from 6 to 8 lines, greatest breadth 1½ line.

_Hab._ Stomach of the spinous Shark, _Acanthias vulgaris_, from Falmouth Harbour. Brit. Mus.

**Order Cestoidea.**

**Genus Tetrarhynchus.**

1. *Tetrarhynchus rugosus._

_Tetrarhynchus rugosus_, Baird, Cat. Entoz. Brit. Mus. 69, t. 2. f. 3.

Body flattish, thick, exceedingly rugose, almost tuberculated, the ruge extending right across the body, which is of a white colour.
Head conical, thicker than the body and about one-fifth the length of it. Bothria inversely heart-shaped (the broader part being at the lower margin), deep, divided at the bottom by a narrow septum; edges thick and raised. Proboscides round and club-shaped at their tips. Inferior extremity of body, as it were, truncate. Total length (in spirits) $10\frac{1}{2}$ lines, breadth of head $2\frac{1}{2}$ lines, of lower part of body 3 lines, bothria 2 lines in length.

In one specimen the head is much broader than the inferior extremity of the body, being about 3 lines broad, while the inferior extremity is only 2 lines and is terminated by a heart-shaped appendage of about $1\frac{1}{2}$ line long and of a light-rose colour (the male?).

_Hab._ Taken alive from the lower intestine of a salmon. Brit. Mus.

2. _Tetrarhynchus strangulatus._


Body flat, of a light yellowish colour, thickish, elegantly and minutely striated across and marked with slight longitudinal sulci, which run the whole length of the body. The head is narrower than the portion of the body which immediately succeeds it, is about 4 lines in length, longitudinally sulcate on the sides, smooth on the two faces, and distinctly separated from the body by a contraction which gives the appearance, as it were, of a shoulder to the commencement of the body. The bothria are shallow, oval-shaped and divided at the bottom by a septum, which, at about the half of its length, divides into two portions; the edges are raised and thickened. Proboscides short and stout; the inferior part of the body terminates in a blunt conical papilla. Length from $1\frac{1}{2}$ to $2\frac{3}{4}$ inches; breadth from 2 to $3\frac{1}{2}$ lines.

_Hab._ —? From Chusan. Brit. Mus.

**Genus Tænia.**

1. _Tænia Bremseri._

_Tænia Bremseri_, Baird, Cat. Entoz. Brit. Mus. 73, t. 2. f. 5.

Head of a moderate size, surrounded with a double crown composed of upwards of twenty small hooks; neck very short. Articulations of body numerous, at first very small and nearly oblong, gradually enlarging in size as they descend, and becoming campanulate. They are marked with numerous fine transverse lines, which again are crossed by several strong longitudinal lines or grooves. The inferior angles of each joint are slightly prolonged into a point, and the margin is somewhat thickened (especially in the lower joints of body) and undulately waved or slightly scalloped. Orifices of ovaries irregularly alternate. Length of specimens about 7 inches; greatest breadth about $2\frac{1}{2}$ lines.

_Hab._ In the Crocodile of the Soonderbund, _Crocodilus palustris_, from Bengal. Brit. Mus.
2. *Taenia calva.* (Annulosa, Pl. XXXI. fig. 1.)


Head small, rounded and smooth, white and shining. Mouth unarmed. Neck constricted. Articulations of body at first very small, gradually enlarging in breadth as they descend till they reach about the middle of the body, where they are still narrow, linear-shaped and about seven times broader than long. After this they begin to increase in length and diminish in breadth, becoming at first nearly square, and at last, near the extremity, nearly twice as long as broad. All the articulations are strongly striated across, and the upper and lower margins, where they join with each other, are considerably thickened. Length 5½ inches, greatest breadth 3½ lines, breadth of lower extremity 1 millimetre, of head ¼th of a mill.


Articulations of body very short and numerous. Inferior margins straight. Genital orifices opposite, situated on or near the lower edge of each joint; the lemniscus projected out in form of an elevated papilla which curves downwards. Unfortunately the head is wanting. Greatest breadth of body 6 lines, length of articulations about ¼ a line.

This species differs from *T. expansa* and *denticulata* (to which species it approaches) in having the posterior or inferior border or edge of each articulation smooth and rounded, instead of being crenulated or undulated; and in having the genital orifices situated on the lower edge of the articulation, instead of in the middle.


4. *Taenia Zederi.* (Annulosa, Pl. XXXI. fig. 2.)


Articulations of body of moderate size, campanulate-shaped, lower margins of each more or less crenated and thickened; at first they are short, they then become longer and narrower as they descend. The greatest breadth is about 2 lines. The whole body is of a yellowish-white colour. Unfortunately the specimens are imperfect at the upper extremity and want the head. The orifices of the genital organs are irregularly alternate.


5. *Taenia falciformis.* (Annulosa, Pl. XXXI. fig. 3.)


Head conical; proboscis unarmed?; suckers large, oval-shaped; no neck; body at anterior extremity very narrow, almost linear, gradually enlarging as it descends; articulations very numerous, extremely narrow. The body is flat and is curved like a sickle.
1 Taenia calva, Baird  2 T Zederi B  3 T falciformis B  4 Bothrecephalus antarcticus B
Genital orifices —— ? Length about $2\frac{1}{4}$ inches, breadth at broadest part 1 line.


**Genus Bothriocephalus.**

1. **Bothriocephalus antarcticus.** (Annulosa, Pl. XXXI. fig. 4.)


Head conical, elongated, smooth, with two lateral opposite fossettes. At the lower margin of each fossette there are two small rounded projecting lobes. Body rounded; from the neck someway downwards it is quite round or cylindrical, and the articulations are very numerous and very small, appearing like mere ridges across. Lower down, the body becomes flatter and the joints larger and more developed; lower margin thin. An impressed line runs along the centre of the body through its whole length. Length about 9 inches, greatest breadth of body about 3 lines.

_Hab._ In the stomach and intestines of a Seal caught about and within the Antarctic Circle. Collected during the late Antarctic Expedition. Brit. Mus.

**EXPLANATION OF THE PLATES.**

**Pl. XXX.**

Fig. 1. _Ascaris larissima_, Baird:—nat. size.  1 a. Head:—magnified.

Fig. 2. _Mermis rigidus_, Baird:—nat. size.

Fig. 3. _Gordius violaceus_, Baird:—nat. size.  3 a. Portion of body:—magnified.

Fig. 4. _Gordius pustulosus_, Baird:—nat. size.  4 a. Portion of body:—magnified.

Fig. 5. _Gordius sphærura_, Baird:—nat. size.  5 a. Portion of body:—magnified.

Fig. 6. _Gordius fasciatus_, Baird:—nat. size.  6 a. Portion of body:—magnified.

Fig. 7. _Pentastoma annulatum_, Baird:—nat. size.  7 a. Head:—magnified.

**Pl. XXXI.**

Fig. 1. _Taenia calva_, Baird:—nat. size.  1 a. Head:—magnified.

Fig. 2. _Taenia Zederi_, Baird:—nat. size.

Fig. 3. _Taenia falciformis_, Baird:—nat. size.  3 a. Head:—magnified.

Fig. 4. _Bothriocephalus antarcticus_, Baird:—nat. size.  4 a. Head:—magnified.

2. **Description of the Animal of Cyclina sinensis.**

_by Dr. John Edward Gray, F.R.S., V.P.Z.S._

The description of this animal was written some ten or twelve years ago, from a specimen kindly given to me by Mr. John Reeves, to whom we are indebted for the knowledge of the greater part of the animals of China and Japan now known to zoologists.

The animal in most particulars agrees with that of the genus _Dosiaria_, next to which I proposed to place it, in my paper on the arrangement of the genera of _Veneridae_, published in the ‘Annals and Magazine of Natural History’ for January 1853.

M. Deshayes regards _Venus Chinensis_ as the type of the genus
Cyclina. In his late monograph he has united to this genus the *Lucinopsis* of Messrs. Forbes and Hanley; but the description of the animal here given will show that *Lucinopsis* is a very distinct genus, for it has separate siphons, whilst the type of the genus has the siphons united as in the other *Dosinia*. It differs from *Dosinia* in the absence of the anterior lateral tooth.

**Cyclina sinensis.**

Mantle lobes free the whole length of the lower margin, the lobes then with a series of radiating muscular bands, a little within the edge; united together behind and extended into a compressed, rather slender, elongated siphon, grooved along the centre of each side and ending with two apertures; the retractor muscles of the siphons angular; the foot (in spirits) rhombic, very much compressed, inferior, subcentral, the lower angle rather produced in front; the lips equal, very long, slender, triangular, more than half the length of the foot; the gills large, oblong, elongate, equal.

The crenated margins of the valves of the shell are covered with the inflexed edge of the hard periostraca; the siphonal inflexion is angular.

**3. Monograph of the Genus Ægosoma, Serville, with the Description of a New Genus and Species Allied to It.**

By Adam White, F.L.S.

The genus *Ægosoma* was formed by M. Serville for the reception of a longicorn beetle, first described by Scopoli under the name of *Cerambyx scabricorronis*. In this genus the head is produced behind the eyes into a kind of neck, unlike its congeners, which have the head retracted into the thorax as far as the eyes. The prothorax is trapezoidal and contracted in front; the ovipositor of the female is long and prominent; the antennae in the males are rough, in the females smooth.

The larva of the European species is found in the trunks of various kinds of trees; the perfect insect, according to M. Mulsant, appears at Lyons in the month of July, and is active at night. M. Serville alludes to a second species, which he had seen in the collection of M. Dejean, where it bore the name *Æg. affine*; in the following little monograph will be found descriptions of five new species, all contained in the collection of the British Museum.

**Ægosoma.**


1. *Ægosoma scabricorronis*.

*Cerambyx scabricorronis*, Scop. Ent. Carn. 54.

Ægosaum scabricorne, Serv. Ann. Soc. Ent. Fr. i. 163; Mulsant, Col. de France, i. p. 24.


2. Ægosoma sinicum, White. Æg. nigro-brunneum, thorace medio postice recto, scutello apice subelongato.—Long. lin. 18.


There is a female of this species in the Museum; it comes from Shanghai, and differs but little from the corresponding sex of the Ægosoma scabricorne; it is of a darker brown, the posterior margin of the thorax over the scutellum is straight, and not slightly notched as in that species; the scutellum also is more pointed.

3. Ægosoma ornaticolle, White. Æg. capite et thorace nigri, verrucis minutis scabriusculis; thorace plagiis quatuor pilis aureis tectis; elytris obscure ferrugineo-brunneis, sutura (apice spinigera) marginque nigri; antennarum articulis tertio quarto et quinto basi asperis.—Long. lin. 25.


Head black, covered with small warts, with a smooth line down the middle, ending in a small smooth depression in the space between the antennae. Mandibles strongly punctured, tips and inner edge smooth; antennae with the basal joint thickly covered with small warts; the third, fourth and fifth scabrous, the projections more distant from each other than they are on the basal joint; sixth and following joints short and smooth. Thorax thickly covered with small warts, with four small spots covered with golden yellow hairs; two of these spots on the fore-margin, two on the posterior margin, somewhat more distant from each other than the two fore ones; the hairs are all more or less directed towards the centre of the spot. Elytra smooth, dull ferruginous brown, the suture and margins black, the suture spined at the apex.

4. Ægosoma marginale.

Cerambyx marginalis, Fabr. Syst. El. ii. 280.

Hab. China, Hong Kong (J. C. Bowring, Esq.); Cape of Good Hope (Fabr.). Coll. Brit. Mus.

5. Ægosoma Cingalense, White. Æg. antennarum articulis tertio et quarto scabriusculis et breviter pilosis; thorace spina brevi laterali, dorso excavato; elytris costatis pilisque flavescentibus tectis, sutura apice mutica.—Long. lin. 17–20½.


Head between and behind the eyes more or less covered with decumbent yellowish hairs; antennae with the basal joint scabrous and punctured; third joint very long, slightly curved, somewhat rough, and rather thickly covered with short yellowish hairs; fourth joint as long as the fifth and sixth joints taken together, somewhat bent, rather rough, and covered with short yellowish hairs, except at the tip, which is smooth: the fifth and following joints without hairs. Thorax with the sides angled, the angle terminating in a
small sharpish spine; the posterior edge margined; middle of the back hollowed out, sides somewhat nodulose; surface punctured and more or less thickly covered with yellowish adpressed hairs. Scutellum with yellowish adpressed hairs. Elytra very long, rather flat, with two or three not very prominent costae, and rendered less distinct by the yellowish adpressed hairs which more or less thickly cover the surface; end of the elytra gradually rounded off; suture without a spine. Abdomen beneath smooth, shining. Legs compressed, somewhat scabrous, brown, with shortish yellow hairs.

6. Ægosoma sulcipenne, White. Æg. thoracis lateribus sub-parallelis; elytris tricostatis, apice spina suturali, costis duas interioribus post medium confluentibus, ad apicem intus curvatis; antennis levisibus, cinnamomeis.—Long. lin. 10–11½.


Head smooth, not grooved down the middle, chestnut-brown, with some scattered short yellowish hairs; antennæ smooth, cinnamon-brown; first joint strongly punctured. Thorax straight in front, the sides nearly parallel, the posterior angle somewhat projecting; the surface slightly scabrous, and rather closely covered with short golden yellow hairs. Elytra with three prominent keels, the two inner confluent beyond the middle of the elytra and continued in a single keel, which is bent inwards near the tip; the outer keel somewhat waved and slightly curved at the end; in the space between it and the other there is a shorter and less distinct keel, which about the middle of the elytra passes into small tubercles; the shoulders and sides of the keels and the spaces between them at the base are more or less covered with small tubercles; the spaces between the keels have many short golden yellow adpressed hairs. The spine at the end of the suture is sharp, as is the outer margin of the elytra. Legs compressed, brown.

7. Ægosoma tibiale, White. Æg. thoracis lateribus unispino-
sis, angulis posticis acutis, fere spinosis; elytris levibus, costa media distincta, alteraque ad suturam abbreviata; suturæ apice spinosæ; tibii crassis, tarsis angustis.—Long. lin. 18½.


Head short, slightly grooved between the eyes, under side of head rough. Antennæ with the first, second, third and fourth joints thickly covered with small warts. Thorax with a spine on the lateral edge about the middle, separated from the produced, somewhat reflected posterior angle by a rounded sinus; surface covered with small warts and outstanding inconspicuous hairs. Scutellum punctured, with a raised line in the middle of the base. Elytra smooth, dark brown, with a distinct costa running nearly to the tip, and another between that and the suture, vanishing about the middle of the suture; elytra rounded at the tip, the suture with a short spine. Legs with the femora and tibiae thick, the tarsi narrow.
Cyrtonops, White, n. g.

Head with largish eyes, which are hardly if at all emarginated. Palpi long, with the terminal joint nearly twice the length of the preceding, obliquely truncated at the tip and covered on each side with shortish hairs*. Antennæ cylindrical, covered with small hairs, third joint not much longer than the fourth. Thorax rather wider than long, the sides angulated. Elytra with the sides nearly parallel. Legs simple; tibiae compressed, and more or less thickly covered with short hairs.


Of a rich cinnamon-brown, closely covered with short erect yellowish hairs. Thorax irregularly punctured, the punctures running into each other and sometimes leaving small smooth spaces. Scutellum rounded at the end, covered with short hairs, which lie close to the surface. Elytra with three rather indistinct longitudinal costae; surface, except at the tip, with many deep punctures, more or less regularly arranged in lines; between these are smaller punctures, from which proceed the hairs.

   By George Windsor Earl.

1. The Sapi, or Wild Ox of the Malay Peninsula, was scarcely known to exist until 1850, when Dr. Oxley, and a hunting-party from Singapore, killed a young cow on the banks of the Muah River. He described it as 6 feet 2 inches high at the shoulder, from hoof to dorsal vertebrae; back curved, highest about the centre. Horns small, curved inwards, white, tipped with black. Forehead flat, with tuft of long hair, large in the bulls. Hair smooth and silky. Colour brown, with white about the feet. Mane 2 inches long, running along the entire back. No dewlap. The bulls are from 7 to 7½ feet high. The flesh is described as delicious. Calves could be obtained with a little trouble, but I suspect it would be difficult to get a full-grown animal; but he would be worth something if caught.

2. The Saladang, another species of wild cattle, is even less known than the Sapi, as no specimen has yet been shot by Europeans. It seems to me to be a sort of Bison, or Bos Gaurus. The males are 10 feet high at the shoulder, and they are altogether fiercer and more formidable than the Sapi, but not so graceful. In my opinion it would be worth while for the Zoological Society to send a man out expressly for the purpose of bringing home specimens of these two

* In one of the specimens there is a curious malformation of the palpi; from the third joint proceed two longish hairy joints, one of them bent.
beasts. The Muah River, where both varieties abound, would be the best spot to seek them; and Inchi Basow, a Malay chief who takes great delight in hunting, would soon procure live specimens of each at a small expense.

3. The Water Buffalo does not seem to be known in England, although it is common all over the Archipelago. The larger specimens stand 7 feet at the shoulder, sometimes more. Barrel very large. Legs short and strong. Skin black and wrinkled, and almost hairless, like that of the Elephant. It is amphibious, and has been known to swim across straits as wide as the Channel at Dover; in fact, the way the head is set on the body, with the nose up, and the horns lying along the back, shows that it is more adapted for the water than the land, although it is an excellent draught animal, and at Singapore supplies the place of the Elephant.

4. The Domestic Ox of Bali and Lombok, a large, sleek, thin-skinned species, as graceful as the Antelope. This would be very much admired in the Gardens. Specimens can be obtained at Singapore, but it would be better to get them from Lombok, whence ships now come direct to England with cargoes of rice. Mr. Lange of Bali Badong (merchant) would, I have no doubt, forward specimens at a trifling cost.

5. Extracts from a Letter by Mr. H. Churton, respecting Collections in New Zealand. Communicated by Mr. J. Stevens.

Wanganui, July 24, 1851.

You can form no idea of the great trouble and expense attending a journey such as you recommend in search of the Notornis. In the first place, the nature of the country is such, that it is almost impossible to penetrate in search of anything; they can only be obtained by the merest chance, or from the natives. In most of the places where birds are to be obtained you cannot proceed without cutting your way, and the fern and shrubs are so thick and high, that if a bird rises close to you you cannot see it. This is the case with the Pakeko. I have been frequently in places abounding with them and not got a shot, though they were flying all about me; the Notornis being of similar habit will be equally difficult to obtain. In the next place, I should have to charter a small vessel for two months at least, to take tents, provisions, &c. for myself and men, to be away from home for perhaps three months, and all for the very slight chance of meeting with a very rare bird: perhaps ten years ago, when I did not mind moving, I might have gone, but now I am snug and comfortable here there is no chance of it; so for me the Notornis must remain.

There are no positively authentic accounts of living Moas. I have paid some attention to the subject, and have heard nothing yet that can be relied on. I think it possible that one species (not the largest) may yet be discovered in the Middle Island, but it will probably be some time first, as even the discovery of that bird will hardly pay a
man for undergoing such fatigue and danger as would be necessary if a person went in search for it. See Mr. Brunner's journal, who was eighteen months exploring about 150 miles, and who, had it not been for his native companions, must have been starved if he had twenty lives.

The Kakapo is now pretty well known; it appears to be tolerably abundant on the Middle Island, though probably quite or nearly extinct on this. I have seen several specimens, and the Acheron steamer on her late expedition I believe obtained a great many, as well as Kiwis, so that, on her return to England, I suppose there will be plenty.

I have had good accounts from the natives of a very large Kiwi existing within their memory, but now supposed to be extinct on this island; it is represented as being at least four feet high. Perhaps that may be still found on the other island. There are also names for five or six other good-sized ground birds, such as large rails, &c., lately existing here, but since the introduction of so many dogs and cats, supposed to be extinct. One was shot the other day near the town, of a species of which I had seen but one specimen previously; it may be Rallus assimilis, but I have not the skins to compare. There is also, about thirty miles from here, a very pretty little duck or teal, which is not described. These are the only novelties I have seen since my return. I have had several Kiwis brought me, and also a few eggs; I had one for breakfast, which was very good and quite enough for one. I sent one last year to the British Museum.

I have made many inquiries about the extinct native rat, but there are certainly none now to be obtained, though formerly they were so numerous as to form a principal article in feasts, and were considered a very great delicacy; they lived on berries, &c., and were like lumps of fat; it is possible they were a kind of opossum rather than a rat. The last were seen here about ten years ago; but the cats and rats, of which the woods are now full everywhere, have destroyed them all. I think there are two kinds of native mice here; one, a sort of shrew, which my dog formerly often caught in the swamps, but which I have not seen lately; another, a little blackish one, found about fields and gardens; this one I have only seen since my return. The natives do not know it, and confound it with the common house mouse, but I do not think it can be an introduced species, as in that case it would scarcely so quickly be found in thousands over so large a tract of country as that in which it was observed last year (I have seen none lately), but rather believe it to be an indigenous species, which from some unknown cause appeared for a short time in astonishing numbers, and then as strangely disappeared.

Insects are so very few, that they are really not worth the great trouble of looking after. I have seen no new species since my return. I know of only five or six butterflies. The largest land shell here is a flat snail, about a quarter of an inch in diameter.
6. On the Division of Ctenobranchous Gasteropodous Mollusca into larger Groups and Families.

By Dr. J. E. Gray, F.R.S., V.P.Z.S. etc.

Cuvier, Dumeril, and Lamarck separated the Gasteropodous Mollusca with pectinated or comb-like gills, into two divisions, according as they possessed or were without a siphon to facilitate the admission of water to their gills, probably being influenced by preceding conchologists, who had in a similar manner divided the spiral shells into those which had an entire, or an emarginated, or a channelled mouth. Lamarck called those with a siphon Zoophaga, and those without it Phytophaga, believing the food of the molluscs to be indicated by the form of the mantle. As we have become more acquainted with the habits of the Mollusca, it has been observed that many of the animals without any siphon to the mantle, as Natica, Scalaria, Ianthina, &c., are quite as carnivorous as those which have the siphon most perfectly developed; on the other hand, Lamarck found it requisite to arrange many genera, as Cerithium, Melanopsis, Planaxis, &c., with the Phytophaga with entire mouths, though the animals have as well-developed siphons, and the shells as distinct a canal or siphonal notch, as any of the genera of Zoophagous Mollusca. These divisions, however, have been almost universally adopted. Dr. Lovén, in his paper on the Scandinavian Mollusca and on the Tongues of these animals, divided the Gasteropoda into natural families independent of these divisions, and Dr. Troschel in his arrangement of Mollusca has followed the same course, separating the families into groups according to the structure of their tongues. The observations which Dr. Troschel made on the arrangement which I published in Mrs. Gray’s work, ‘Figures of Molluscous Animals,’ have induced me to reconsider the subject, consult again all the authorities, and examine the tongues of the molluscous animals which have been lately received at the Museum collections.

Being impressed with the importance which Dr. Lovén attached to the form of the mouth, I was induced to pay attention to this character, and I believe that it affords a much more natural means of separating the families into two great groups, than the presence or absence of the siphon of the mantle, and one which appears to be more consistent with the habits of the animal and much less liable to exceptions. I may observe in passing, that some of the French zoologists do not appear to have been impressed with its importance, for MM. Quoy and Gaimard in some few instances erroneously represent some of the species of a genus, a Murex and Terebra for example, as having a rostrum, while the greater part of the species are properly represented without it, and as having a proboscis; and the same may be remarked of some of the more modern figures of these animals.

I fully expect that many naturalists, especially those who have chiefly confined their studies to the external form of the shell or to the fossil species, will consider that the system here proposed is very artificial, as it separates from one another many genera and families which they have regarded as being very nearly allied, or as belonging
to the same family or even genus. But it must be recollected that this was the case when first the study of the animal was undertaken, yet no one now objects to the terrestrial Helices and Bulimi being separated from the sea shells which were formerly arranged with them, or the Bullae from the other marine families, and we must expect that the more the structure of the animal becomes known, the more the genera founded only on the shells will become separated and dispersed.

In drawing up the characters of the suborders and families, I have attempted to select those which appeared most permanent, or least subject to variation. In all animals, as a general rule, those organs by which they obtain their food belong to the first class; hence the characters of the suborder and its divisions have been taken from the form of the mouth and the disposition and form of the teeth on the lingual membrane, as I have no doubt these parts have a most important bearing on the economy of the animal; while the characters of the families have been taken from modifications of the mantle and differences in the structure and form of the operculum and shell; for though I consider that the characters of the order, suborder, and families should be chiefly taken from modifications of the animal, I always consider that the shell and operculum are quite as important as regards the genus, as the animal which forms them.

Suborder I. Proboscidiiforma. Head small, with an elongated, retractile, more or less exsertile proboscis, when retracted hidden within the body; tentacles close together at the base or united by a veil over or around the base of the proboscis; eyes sessile, on the outer base of the tentacles; operculum annular (except in Natica). Carnivorous, eating living mollusca and other animals.

The trunk or proboscis is of a very complicated structure, and furnished with a number of muscles, well described by Cuvier in his anatomy of Bucinum, which enable it to be withdrawn into itself like the tentacles of a snail. These animals are said to form the round holes so commonly found in other shells, and the lingual membrane is placed near the apex of the exserted trunk.

In Cassidulus the head is conical, produced, annulated like a proboscis, with tentacles at the tip, close together at the base; the proboscis is completely retractile.

Suborder II. Rostrifera. Head moderate, with a more or less elongated, produced, contractile, transversely annulated rostrum; tentacles subulate, far apart on the side of the rostrum. Essentially phytophagous; the rostrum is only furnished with contractile muscles, and varies in length and shape; in Struthiolaria it is very long and conical subulate, but it is not retractile like those of the former suborder; the rostrum of the Strombi is also elongated, while in some other families it is short and truncated, but it is always easily known from the retractile proboscis of the former group; the lingual membrane is often very long, extending far into the body of the animal.

The families are the same as those characterized in the 'Figures of Mollusca,' vol. iv. 1850, only placed in different order,

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to show the characters afforded by the teeth; some new ones, rendered necessary by the examination of the teeth of some genera, which had not before been described, are added.

Suborder I. Proboscidifera.

A. Hamiglossa. Teeth on lingual membrane in three series (1, 1, 1), the central broad, the lateral versatile (figs. 1-4).

Fam. 1. Muricidae. Head truncated; tentacula moderate; lateral teeth flat, with a bent-up process at the end more or less at right angles with the base; siphon of mantle and canal of shell straight; foot simple in front; mantle enclosed; pillar lip smooth (fig. 1).

Fig. 1.—Chrysodomus antiquus.

a. Muricina. Operculum ovate; nucleus subapical within the apex; varices of shell developed. Murex, Trophon.

b. Fusina. Operculum ovate, acute; nucleus apical; varices of shell rudimentary or none. Pisania, Coles, ?Latirus, Chrysodomus, Clavelia (Cyrtulus).


d. Rapananina. Operculum ovate, blunt; nucleus elongate, forming the outer or hinder edge. Rapana, Rhinochilus, Chorus, Cuma.

Fam. 2. Buccinidae. Head truncated; tentacula moderate; lateral teeth flat, with a bent-up process at the end more or less at right angles with the base; siphon of mantle and canal of shell recurved; foot simple; mantle enclosed; pillar lip smooth.


Ringicula probably belongs to Auriculadae, as it is said to have the teeth of that family.


It is to be observed that the operculum of these two families offers exactly the same modifications.

Planaxina, which have been arranged in this family, have a distinct rostrum and operculum like Littorina.
Fam. 3. **Cassidulidæ.** Head produced, conical; tentacles very small, at the end of the head; lateral teeth flat, bent up at the end; siphon of mantle and canal of shell straight, bent up at the end; mantle enclosed; foot simple (fig. 2).

![Fig. 2.—Cassidulus morio.](image)


Fam. 4. **Olividæ.** Siphon of mantle recurved; foot with a cross groove on each side in front, often enclosing part of the shell; mantle enclosed; operculum small or none (fig. 3).

![Fig. 3.—Ancillaria candida.](image)

  - *Lateral teeth broad ovate.* *Strephona, Olivella, Scaphula, Agaronia.*
  - **Lateral teeth hook-like, narrow.** *Ancillaria, Eburna.*

Fam. 5. **Lamellariadæ.** Lateral teeth simple, curved; mantle very large, covering the shell, with a notch in place of the siphon in front; operculum none (fig. 4). *Lamellaria, Coriocella.* The genus *Marsenina (prodita)* appears more allied to *Velutinidæ.*

![Fig. 4.—Coriocella perspicua.](image)

**B. Odontoglossa.** Teeth on lingual membrane in three series (1 · 1 · 1), the central recurved, toothed at the tip, the lateral not versatile (figs. 5, 6).

Fam. 6. **Fasciolariadæ.** Head truncated; tentacles moderate; mantle enclosed; siphon and canal of shell straight; shell with plaits
on the front of the pillar; central tooth narrow, small; lateral teeth very broad, linear, with many equal teeth (fig. 5).

Fig. 5.—Fosciolaria.

a. *Fosciolariana.* Operculum ovate; nucleus apical; canal elongate. *Fosciolaria, Lagena.*


Fam. 7. *Turbinellidae.* Head truncated; tentacles moderate; mantle enclosed; siphon and canal of shell straight; shell with plaits on the middle of the pillar; central teeth broad, few-toothed; lateral teeth narrowed, strong, with a single large tooth (fig. 6). *Turbinellus,* *Cynodonta.*

Fig. 6.—*Turbinellus.*

C. *Rachiglossa.* Teeth on lingual membrane in a single central series, often toothed (figs. 7, 8).

Fam. 8. *Volutidae.* Shell with plaits on columella; siphon recurved, and canal very short.

Fig. 7.—*Yetusolla.*

Fig. 8.—*Cymbiola Turneri.*

a. *Volutina.* Siphon with auricles on side of base; tentacles far apart, united by a broad veil over the head.

* Teeth lunate, apex 3-toothed (fig. 7).  
  a. Operculum none. *Yetus,* *Cymbium,* *Scapha* (*vespertilio*).  

** Teeth linear, base angularly diverging, with a single conical apex (fig. 8). Operculum none. *Cymbiola* (*Turneri*).

b. *Volutomitrina.* Siphon simple at the base; tentacles close together at the base; mantle enclosed; operculum none; teeth with
a single acute apex and divergent base, very small at the tip of the proboscis. *Volutomitra.*

c. *Porcellanina.* Siphon simple at the base; tentacles close together at the base; mantle lobes expanded, covering the shell; operculum none; teeth in a single series, broad, transverse, band-like, toothed in front, like Quoy’s figure of *Mitra.* *Porcellana, Persicula, ?Hyalina.*

A specimen of *P. glabella* in spirits showed no appearance of the dilatation of the mantle.

D. Toxoglossa. *Teeth sunk into the proboscis in two lateral series (1·0·1), elongate, subulate* (fig. 9).

Fam. 9. *Pleurotomidae.* Siphon of mantle and canal of shell straight; mantle and shell often with a slit in hinder part of right side.

![Fig. 9.—Mangelia.](image_url)


b. *Clavatulina.* Operculum semiovate; nucleus in the centre of the straight front edge. *Clavatula, Tomella.*


E. Tænioglossa. *Teeth on lingual membrane in seven rows (3·1·3), central generally toothed, lateral in three series, converging, the inner often broad, two outer subulate, versatile* (figs. 10, 11).

Fam. 10. *Doliidae.* Head truncated; tentacles moderate; proboscis-sheath large, funnel-shaped, free on the edge; foot small; siphon of mantle recurved; mantle enclosed; operculum none. Tongue ——? *Dolium, ?Malea.*

Fam. 11. *Tritoniidae.* Head truncated; tentacles moderate; proboscis-sheath small; foot small; siphon of mantle and canal of shell straight; shell variced; mantle enclosed; operculum ovate, annular; nucleus lateral or apical.

a. *Ranellina.* Operculum half ovate; nucleus central, lateral or internal; varices acute. *Ranella.*

b. *Tritonia.* Operculum ovate; nucleus apical; varices rounded. *Apollon, Triton.*

c. *Personina.* Operculum small, triangular, broad; nucleus apical; varices acute, foliaceous. *Persona.*
d. *Neptunellina.* Operculum ovate; nucleus central. *Neptunella (cutaceum).*

The teeth of this family have been verified in a dozen species.

Fam. 12. **Scytotyphidae.** Head produced, conical; tentacles very small; foot small; siphon of mantle produced; operculum none. *Scytotyphus*.

Fam. 13. **Velutinidae.** Head truncated; tentacles and foot moderate, rounded; mantle edge inflated, folded on the edge into two canals; eyes on outer side of tentacles; operculum none (fig. 10). *Velutina, Marsenina.*

![Fig. 10.—Velutina haliotidea.](image)

Fam. 14. **Naticidae.** Head truncated; tentacles moderate; foot very large, much-produced; shell sunk into the foot; eyes none; operculum distinct, spiral, few-whorled (fig. 11).

![Fig. 11.—Natica pulchella.](image)


From Dr. Lovén's description of the animal of *Trichotropis borealis,* it should be referred to this suborder, and equally so by Messrs. Forbes and Hanley's figures, t. II. f. 1; but in examining the animal of *Trichotropis bicornatus,* the original type of the genus, I find that it has a rostrum and no proboscis. I should have been inclined to have regarded the animals of these two species as probably forming two genera, but Messrs. Forbes and Hanley's description of the animal (Brit. Moll. 361) agrees pretty well with the animal of *T. bicornatus.*

F. Ctenoglossa. **Teeth on lingual membrane in many series, numerous, similar** (fig. 12).

Fam. 15. **Cassididae.** Mantle enclosed, with a recurved siphon; shell ventricose, subglobose, with a recurved canal, often varicose, outer lip thickened; lingual membrane short, broad, triangular, with many rows of similar lancet-shaped teeth, and a single small dentated tooth in the central series; operculum annular; nucleus in the middle

* In Ann. and Mag. Nat. Hist. x. 415, 1852, by a slip of the pen, I erroneously stated that this animal had no proboscis.

Fam. 16. **Scalariadæ.** Foot moderate; mantle enclosed; shell turrited, variced, without any canal; eyes on outer side of the subulate tentacles; operculum horny, spiral (fig. 12). *Scalaria.*

![Fig. 12.—Scalaria Turtoni.](image)

Fam. 17. **Actæonidæ.** Foot moderate; mantle enclosed; eyes on the inner side of the base of the expanded tentacles; operculum horny, subspiral. *Actæon.*

G. **Gymnoglossa.** Teeth and lingual membrane rudimentary or none.

Fam. 18. **Acusidæ.** Foot small; mantle enclosed, with an elongated siphon; shell turrited, lip thin, not variced; eyes on tip of tentacles or wanting; tentacles very small or wanting; operculum annular, nucleus apical. *Acus* (tentacles small). *Subula* (tentacles and eyes none). *Leiodomus* (suture callous; operculum ovate; tentacles small; has been confounded with *Bullia*). *?Dorsanum.*

Fam. 19. **Pyramidellidæ.** Foot moderate; mantle enclosed; eyes on the inner side of the broad folded tentacles; operculum horny, spiral; shell spiral, pillar-plaited.


b. **Tylodinina.** Shell subspiral. *Tylodina.*

*Cerithiopsis* of Forbes and Hanley, tab. OO, if accurately described, must form a new family in this section.

Fam. 20. **Architectomidæ.** Tentacles folded, with the suture below; eyes sessile on upper surface of their base (Eydoux). Gill-cavities divided by a longitudinal fold; foot moderate, truncated and double-edged in front, rounded behind (Quoy); proboscis very long, completely retractile; teeth none.


Suborder II. **Rostrifera.**

A. **Gymnoglossa.** Lingual membrane and teeth none; operculum none.

Fam. 21. **Cancellariadæ.** Mantle enclosed; pillar of shell folded; operculum none. *Admete, ?Cancellaria.*
B. Toxoglossa. Lingual membrane with two series of subulate, elongate, often barbed, lateral teeth (fig. 13).

Fam. 22. Conidæ. Teeth barbed; mantle enclosed; operculum ovate, nucleus apical (fig. 13). Conus.

C. Dactyloglossa. Teeth on lingual membrane in seven rows, $3 \cdot 1 \cdot 3$, the central teeth triangular, recurved, 3-toothed; lateral teeth converging, inner conical, recurved, outer large, broad, ovate, with numerous long, linear, equal, curved digitations on the upper edge (fig. 14).

Fam. 23. Amphiperasidæ. Operculum none; mantle lobes expanded, covering the shell, bearded externally; shell, edge of outer lip inflexed (fig. 14). Amphiperas.

The black colour on A. ovum washes off when in spirits.

Fig. 13.—Conus.

Fig. 14.—Amphiperas ovum.
D. Tænioglossa. Lingual membrane with seven series of teeth (3·1·3), the central broad, the lateral converging, the inner often broader; outer lateral conical, except in Viviparidae (figs. 15-26).

A. Operculum subannular or none; mantle furnished with a siphon, and shell with a canal in front.

* Eyes sessile, on the outer side of the base of the tentacles.

Fam. 24. Cypræadæ. Operculum none; mantle lobes expanded, covering the shell; outer lateral teeth conical, entire or toothed (fig. 15). Cypræa, Trivia, ?Cyprovula, Luponia, Naria, Aricia, Erato.

![Fig. 15. Cypræa helvola.](image)

Fam. 25. Pediculariadæ. Operculum none; mantle enclosed (fig. 16). Pedicularia.

![Fig. 16. Pedicularia sicula.](image)

Fam. 26. Aporrhaidæ. Operculum annular, ovate, nucleus apical, small; mantle, outer edge expanded, lobed, or rarely reflexed; siphon and canal of shell bent to the right (figs. 17, 18). Aporrhais; Trichotropis (lingual membrane short, broad); Separatista, Struthiolaria.

(See observations on Trichotropis at p. 38.)

![Fig. 17. Aporrhais pes-pelicani.](image) ![Fig. 18. Trichotropis borealis.](image)

** Eyes on elongated peduncles.

Fam. 27. Strombidae. Foot compressed, used for jumping, not walking; mantle, outer side generally expanded and often lobed; muzzle longly conical.


B. Operculum subannular; mantle and shell simple in front; eyes sessile.

Fam. 28. Phoridae. Foot compressed, used for jumping, not walking; eyes sessile, on the outer side of the subulate tentacles; operculum large, horny, subannular; muzzle conical, produced; tongue — ?; teeth — ? Phorus, Onustus.

C. Operculum annular, regular; mantle with a siphon in front; shell simple in front; eyes pedicelled, near the outer side of the base of the subulate tentacles.

Fam. 29. Ampullariadæ. Gill with air-bag; central teeth acute; lateral subulate.

a. Operculum horny; canal exposed. Marissa, Pomus, Pomella, Lanistes.

b. Operculum shelly; canal not exposed. Asolene, Ampullaria.

D. Operculum annular, regular; mantle and shell simple in front; eyes sessile, on the outer side of the base of the subulate tentacles.

Fam. 30. Viviparidæ. Teeth abnormal, laminar, longitudinal, ovate, apex recurved, toothed on each side the tip; inner lateral tooth broad (fig. 19). Viviparus, Paludomus, Bithinia.

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Fig. 19.—Viviparus.

E. Operculum annular, regular, with an internal process; mantle and shell simple in front; eyes sessile, far back behind the tentacles.

Fam. 31. Rissoellidæ. Rostrum divided into two tentacular lobes in front; teeth 3·1·3 (Alder MSS.). Rissoella=Jeffreysia, Alder; Rissoina.

F. Operculum spiral (rarely wanting); mantle and shell generally simple, sometimes with a rudimentary siphon and a canal in front of shell; eyes sessile; outer lateral teeth conical, curved.

a. Eyes sessile, on outer side of tentacles.

* Gills indistinct, in the form of series of vessels on the inner surface of the mantle.

Fam. 32. Cyclophoridae. Operculum spiral; mouth of shell circular. Cyclophorus, Cyclotus, Pomatias, &c.

Fam. 33. Oligyradæ. Operculum annular; mouth of shell half ovate. Oligyra, Alcadia.
** Gills enclosed, in one or three comb-like lines on inner side of mantle-cavity.

Fam. 34. Littorinidae. Mantle edge simple or with only a slight fold in front; gills in two series; shell free; foot flat (figs. 20, 21). *Assiminia, Littorina, Risella, Pagodus, Modulus, &c.*

![Fig. 20. Assiminia Grayana.](image)

![Fig. 21. Littorina littorea.](image)

Fam. 35. Planaxidae. Mantle edge with a siphon and shell with a notch in front; teeth 3·1·3, inner broad, two outer linear. *Planaxis, Quoyia, ?Litiopa.*

Fam. 36. Melaniidae. Mantle edge torn, with a more or less distinct siphon in front; gill of a single series of plates (figs. 22, 23). *Rissoa, Skenea, Melania, Melanopsis, Vibex, Faunus, Melanatria, Rhinoclavis, Cerithium, Telescopium, Triphoris, Terebellum.*

![Fig. 22. Rissoa membranacea.](image)

![Fig. 23. Melanopsis buccinoides.](image)

Fam. 37. Vermetidae. Shell attached, irregular; foot scarcely fit for walking, dilated, clavate at the end. *Vermetus, Serpuloides, Siliquaria, &c.*

Fam. 38. ?Vanicoroidae. Shell free; foot small, circular, produced in front, with a dilated membranous expansion on each side; operculum horny, ovate; teeth —— ? *Vanicoro.*
*** Gills plumose, exposed, laminae pinnate, spirally twisted.


Fig. 24.—Valvata piscinalis.

b. Eyes sessile, on the head between or rather behind the base of the tentacles.

Fam. 40. Caecidæ. Shell subcylindrical, arched; apex deciduous, subspiral; operculum circular, horny; foot short; teeth 3·1·3; jaws distinct. Caecum.

Fam. 41. Truncatellidæ. Body and shell spiral; foot very short, roundish; muzzle broadly 2-lobed; walks with its foot and lips; teeth 3·1·3; gill ——?; operculum horny, spiral. Truncatella.

Fam. 42. Aciculadæ. Body and shell spiral; foot short, divided; gills ——?; operculum horny, spiral. Acicula, Geomelania.

G. Operculum none; mantle and shell simple in front; gills in an oblique line across the mantle-cavity; laminae elongate, linear, partly exposed; eyes small, on the outer side of the base of the tentacles.

Fam. 43. Capulidæ. Foot folded on itself (fig. 25). Capulus, Hipponyx, Amalthis, Amathina.

Fig. 25.—Capulus hungaricus.

Fam. 44. Calyptraeidæ. Foot expanded (fig. 26). Crypta, Galerus, Crucibulum, Calyptra, Trochita.

Fig. 26.—Calyptra sinensis.
MNURA ALBERTI Gould.
February 22, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following paper was read:

**Description of a New Species of Aulacorhamphus.**

By John Gould, F.R.S.

Mr. Gould exhibited a new species of Groove-billed Toucan, which had been killed in Veragua, together with other ornithological rarities, by Berthold Seemann, Esq., Naturalist to H.M.S. Herald. He proposed, from the blue colouring of its throat, to call it

*Aulacorhamphus cæruleogularis.*

Upper surface dark green, with an olive tint on the head and nape, and of a brighter green on the rump and upper tail-coverts; primaries blackish brown, margined externally at the base with dark green; tail deep green, passing into blue towards the extremity, and tipped with rich chestnut; throat and fore part of the cheeks cærulean blue; under surface green, washed with yellow on the flanks and abdomen; under tail-coverts rich chestnut; bill black, with the exception of the upper part of the sides of the upper mandible and the apical portion of the culmen, which are greenish yellow, passing into purer yellow at the tip; on the sides of both mandibles at the base a broad band, which on the upper one is yellow, and on the lower white; orbits red; legs and feet greenish lead-colour.

Total length, 12½ inches; bill, 2½; wing, 4½; tail, 4¾; tarsi, 1½.

_Hab._ Veragua.

*Remark._—Nearly allied to *Aulacorhamphus albiditta*; but distinguished from that species by its rich blue throat, by the band at the base of the bill being much broader and yellow on the upper mandible, instead of white, and by the under surface being washed with yellow, while in the other it is pure green.

March 8, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:

1. **On the Nest and Eggs of Menura Alberti.**

By John Gould, F.R.S.

(Aves, Pl. LIII.)

Mr. Gould exhibited a nest and two eggs of *Menura Alberti*, which had been obligingly lent to him for the purpose by Mr. Turner of
Sydney. The nest was oven-shaped in form; outwardly constructed of roots, tendrils and leaves of palms, and lined with green mosses. It was about 2 feet in length by 16 inches in breadth, domed over except at one end. The eggs, barely 2½ inches long by 1½ broad, are of a deep purplish chocolate, irregularly blotched and freckled with a darker colour.

The nest and eggs are deposited in the national collection at the British Museum.

2. NOTICE OF A PRESUMED NEW SPECIES OF RHINOCEROS,
FROM SOUTH AFRICA.

BY J. E. GRAY, PH.D., F.R.S., V.P.Z.S., P.B.S. ETC.

Colonel Thomas Steele having most kindly presented to the British Museum a pair of horns of a two-horned Rhinoceros, which was discovered in the interior of South Africa by his friend Mr. Oswell, Dr. Gray exhibited the horns; and having pointed out the peculiarity of their form, proposed that they should be provisionally described as belonging to a new species, under the name of Rhinoceros Oswelli.

The front horn is elongated and thick; but instead of being bent back, as is the general character of R. bicornis, or erect, as in R. simus, is bent forwards, so that the upper surface is worn flat by being rubbed against the ground. The front horn in the pair exhibited was 31 inches long, flat, square, rough and fibrous in front, rounded
and smooth behind. The hinder horn was short, conical and sub-quadrangular; it was 11 inches in length.

Dr. Gray stated that the British Museum possesses a second specimen of a front horn, of a similar curve and form, with a similarly worn front top, of a rather larger size. This formerly belonged to Sir Hans Sloane's Collection; so that this species, like \textit{R. simus}, must have been known to the older travellers.

March 22, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:

1. **Description of a New Species of Tetraogallus.**
   By John Gould, F.R.S.

Mr. Gould laid upon the table a complete series of all the known species of the genus \textit{Tetraogallus}, viz. the

\textit{Tetraogallus Caspius}, inhabiting Astrabad, Ghilan, and other parts of Persia;

\textit{Tetraogallus Himalayensis}, inhabiting the Himalaya mountains;

\textit{Tetraogallus Altaicus}, inhabiting the Altai mountains;

and a fine new species, lately sent to the Honourable East India Company, from Thibet, by Captain Strachey, which he described under the name of

\textit{Tetraogallus Tibetanus}.

Crown of the head, cheeks, back and sides of the neck dark slate-grey, washed with buff on the orbits; ear-coverts buffy white; chin, front of the throat and chest white; upper surface, wings and tail-coverts freckled buff, grey and black, the feathers of the middle of the back and the wing-coverts broadly edged with pale buff; rump and upper tail-coverts washed with rufous; primaries greyish brown; secondaries broadly edged and tipped with white; breast crossed by a narrow band of grey, freckled with buff and blotched with black; under surface white; the feathers of the flanks and lower part of the abdomen narrowly but conspicuously margined with jet-black, forming stripes along those parts of the body; under tail-coverts black, with a broad stripe of white down the centre; tail very dark brown, inclining to rufous at the tip; bill and feet orange-red.

Total length about 15 inches; bill, 1\(\frac{1}{2}\); wing, 9\(\frac{1}{2}\); tail, 5; tarsi, 2\(\frac{1}{2}\).

In the collection of the Honourable East India Company.
2. Descriptions of Two New Species of Ptilonopus.

By George Robert Gray, F.L.S. & F.Z.S.

(Aves, Pl. LIV. LV.)

Ptilonopus chrysogaster, G. R. Gray. (Pl. LIV.)

Crown purplish white, margined posteriorly with yellow; sides of the head, neck and breast greyish white, with the base of the feathers of the latter yellow; throat and cheeks pale yellow; abdomen and under tail-coverts bright yellow; sides of the former greyish white, tinged with yellow; back brony green; greater wing-coverts, tertials and secondaries bluish green, narrowly margined with yellow; quills dull black, with the outer web tinged with green; tail brony green, with a very broad apical margin of white, each feather margined with yellow.—Total length, 8½ inches.

Hab. — ? Probably from Otaheite.

This species is closely allied to the Pt. purpuratus (Columba purpurata, Gmel., C. oopa, Wagl., Pt. furcatus, Peale), but it is easily distinguished by the yellow on the abdomen, &c.

Ptilonopus purpureocinctus. (Pl. LV.)

Crown and base of lower mandible deep rosy purple, surrounded posteriorly with yellow; throat white; sides and behind the neck greenish grey; feathers of the upper part of the breast deep greyish green, with the end of each bifurcation white; lower part of the breast green, with a broad mark of deep purple; middle of the abdomen yellowish green, with the sides orange; vent pale yellow, with the sides green; under tail-coverts orange; back and lesser wing-coverts bronzy green; greater wing-coverts, secondaries and tertials bluish green, margined with yellow; quills green, narrowly margined with yellow; tail green tinged with yellow, with the apical portion broadly margined with white; tail-feathers tinged on the outer web with green, and all margined with yellow.—Total length, 9 inches.

It is unknown from whence this fine species was brought.


By Dr. L. Pfeiffer.

1. Helix maxima, Pfr. H. testa perforata, subturbinato-depressa, solida, ponderosa, oblique irregulariter striata, superne fulva, fasciis variis luteis ornata; spira subturbinata, apice obtusula; sutura profunda; anfr. 6½ lente acresscentibus, superis planis, sequentiibus regulariter convexis, ultimo medio carinato, basi nodice convexo, nitido, castanea; apertura parum obliqua, lunari, intus lactea; perist. simplice, recto, obtuso, marginibus distantibus, basali intus subincrassato, superne breviter dilatato, perforationem fere tegente.

Diam. maj. 90, min. 77, alt. 42, mill.

Hab. Philippine Islands.
PTILONOPUS CHRYSOCASTER G.R. Gray
½ NAT SIZE
PTILONGUS PURPURROGINTUS. G. F. Gray
as NAT SIZE.
2. *Helix Oweniana*, Ptfr. *H. testa perforata, turbinato-depressa, tenui, superne radiato-striata, lineis confertissimis spiralisbus decessata, hand nitente, fulva; spira breviter conica, obtusa; sutura marginata; anfr. 4½ sensim accrescentibus, convexis, ultimo non descendentе, peripheria pallide carinato et infra carinam fascia rufa notato, subius corneo-virente, nitido, lineis impressis, spiralisbus irregulariter insculpto; apertura fere diagonalis, subrambeo-lunari, intus margaritacea; perist. simplex, recto, marginibus remotis, columnellari declivi, caloso, superne sinuato, ad perforationem breviter dilatato, reflexo. 

Diam. maj. 32, min. 26½, alt. 17 mill.

*Hab.* Philippine Islands.

3. *Helix Bridwillii*, Ptfr. *H. testa imperforata, trochiformi, tenuiuscula, confertim striatula, nitidula, albida, maculis castaneis subseriatis ornata; spira regulariter conica, acutiuscula; sutura impressa; anfr. 6 planisculus, ultimo vix descendentе, ad basin planulatam, maculis majoribus subconfluentibus ornatum, carinato, antice tumido et subconstricto; apertura perobliqua, angusta, subtriangulare; perist. nigro, marginibus dilatatis, dextro recto, basali inde a carina arcuato, tum subtrigono, dilatato, adnato.

Diam. maj. 18½, min. 16, alt. 17 mill.

*Hab.* North Australia (Mr. Strange), Wide Bay (F. C. Bridwill).

4. *Helix Circe*, Ptfr. *H. testa imperforata, globoso-depressa, solidula, lecissime striatula, non nitente, fusca, zonis 3 latis, albis, hydrophanis, fusco irregulariter maculatis, cincta; spira brevissima, convexa, apice obtuso, lilaceo; anfr. 4 convexis, rapide accrescentibus, ultimo vix descendentе, basi distinctius striato; columnella declivi, dilatata, plana, alba; apertura ampla, fere diagonalis, lunato-rotundata, intus pallide lirica; perist. pallide carneo, undique expanso et reflexusculo.

Diam. maj. 47, min. 38, alt. 28 mill.

*Hab.* Philippine Islands.

5. *Helix Lais*, Ptfr. *H. testa imperforata, sublenticulari, tenui, sub lente vix striatula, parum nitida, virenti-alba; spira brevi, convexa; sutura lineari, albo-marginata; anfr. 4½ vix convexiusculis, sensim accrescentibus, ultimo non descendentе, peripheria subacute carinato et fascia unica, saturate castanea ornato, basi convexiore; columnella brevi, declivi, dilatata, plana, alba; apertura parum obliqua, subquadrauntari-lunari; perist. anguste expanso, albo-limato, marginibus subparallellis, basali leviter arcuato, cum columnella angulum obtusissimum formante.

Diam. maj. 33, min. 29, alt. 18 mill.

*Hab.* Philippine Islands.

6. *Helix Ceres*, Ptfr. *H. testa umbilicata, semiglaboso-subcampanuliformi, solida, leviter striatula, parum nitente, sordide lutea, fascis nonnullis rubellis ornata; spira convexa, vertex subtili, obtuso; sutura vix impressа; anfr. 6½ vix convexiusculis, lente

No. CCLI.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.
accrescentibus, ultimo non descendente, peripheria subcarinato, basi convexe; apertura diagonalis, oblique lunaris, intus carneo-albida; perist. fusco-carneo, marginibus remotis, dextro expanso, basali breviter reflexo, columellari dilatato, intus plica obliqua manita, extus fornicato, umbilicam angustum semitecte.

Diam. maj. 23, min. 20, alt. 14 mill.

Hab. Philippine Islands.

7. Bulimus pervius, Pfr. B. testa umbilicata, oblique ovato-conica, solidula, ruguloso- striata, opaca, alba; spira conica, acutiuscra; sutura profunda; anfr. 6½ convexis, ultimo spiram vix superante, basi suboblique producto, circa umbilicam angustam, sed pervium subcompresso; columella leviter arcuata; apertura obliqua, obliqua, columnae leviter arcuata; perist. simplice, marginibus approximatis, dextro expansiusculo, columellari dilatato, vix reflexo.

Long. 24, diam. 12 mill.

Hab. --- ?

8. Bulimus flexilabris, Pfr. B. testa breviter rimato-subperforata, oblique ovato-turrta, solidiuscra, sublavigata, nitida, alba, fascis 3 spadiceis, albo-punctulatis ornata; spira elevato-conica, apice obtusula, nigra; anfr. 7 convexiusculis, ultimo spira breviore, oblique producto, basi antice subangulato; columella brevi, tarta, recedente; apertura parum obliqua, irregulatar subquadrangulari; perist. simplice, undique expanso, marginie dextro medio rectlineari, superne curvato, basi subimpresso et angulatim extrorsum dilatato, sinistro declivi, cum columella angulum formante, superne perdiratato, patente.

Long. 28, diam. 12½ mill.

Hab. Brazils.

9. Bulimus filaris, Pfr. B. testa imperforata, ovato-conica, tenui, irregulatar plicato- striata, diaphana, sordide alba, strigis latis, angulatis, nigricantibus, in anfr. ultimo fascias obsoletas formatibus, ornata; spira conica, acutiuscra; sutura crenulata; anfr. 5 vix convexiusculis, ultimo spiram subaequante, deorsum dilatato; columella valde recedente, filari; apertura obliqua, ovali, intus submargaritacea; perist. simplice, recto, basi subeffuso.

Long. 26, diam. 12 mill.

Hab. --- ?

10. Bulimus Keppelli, Pfr. B. testa anguste umbilicata, ovato-oblonga, tenuinscra, sublavigata (irregulariter striolata), nitida; spira elongato-conica, apice acutiuscula, alba; anfr. 7 convexiusculis, superis albis, spadiceo-bifasciatis; ultimo 3½ longitundinis aequante, ad suturam subuplicato, basi subapennato, fumosoo-fusco, fascis spadiceis pallide marginatis 3–4 cineto, guttis pallidis irregulatice consperso; columella stricta; apertura param obliqua, angusta, oblonga; perist. simplice, marginie dextro leviter arcuato, recto, columellari in laminam latam, triangularem, patente dilatato.

Long. 34½, diam. 14 mill.

Hab. Andes of Peru (Capt. Keppell).
11. Cyclostoma Recluzianum (Cyclotus), Pfr. C. testa umbilicata, depressa, solidula, obsolete spiraliter lirata; sub epidermide pallide virente albida; spira vix elevata, submucronata; sutura profunda, carina submarginata; anfr. 4½ convexis, rapide acræcentibus, ultimo terete, peripheria carina acuta, antorsum evanescente munita; umbilico perspectivo, ⅔ diametri æquante; apertura parum obliqua, subcirculari; perist. simplice, recto, continuo, breviter adnato.—Operc. Cycloti.
Diam. maj. 11, min. 9, alt. 5 mill.
Hab. Salomon's Islands.

12. Cyclostoma tubuliferum (Cyclotus), Pfr. C. testa late umbilicata, striatula, opaca, albida, flammis angulosis fuscis picta; spira vix elevata, fusco-violacea, vertice subacute prominenti; sutura subprofunda; anfr. 4½ convexusculis, ultimo terete, antice breviter soluto, vix descendente, 2 mill. pone aperturam tabulo brevi a sutura retrorsum subascendente munito; apertura diagonalis, circularis; perist. duplicato: interno continuo, porrecto, externo marginibus supero et dextro breviter patente, sinistro obsolete.
Diam. maj. 16½, min. 13, alt. 6½ mill.
Hab. —?

13. Cyclostoma labiosum (Cyclophorus), Pfr. C. testa umbilicata, depressa-turbinata, solida, oblique striatula et lineis spiralibus, confertissimis, vix elevatis sculpta, nitidula, saturate castanea, lituris albidis praestim ad suturam variegata; spira brevi, vertice acutiusculo, sordide fusco; anfr. 5 convexis, celere acræcentibus, ultimo peripheria subcarinato et pallide articulato, infra carinam fascia lata, nigrante cincto, circa umbilicum album, mediocrem, extus infundibuliformem subangulato; apertura obliqua, subcirculari, intus pallida; perist. crasso, lutescenti-albido, breviter adnato, ceterum fornicatim et anguste reflexo, margine columnari subrecedente.
Diam. maj. 43, min. 34, alt. 22 mill.
Hab. —?

14. Cyclostoma Pirrieanum (Cyclophorus), Pfr. C. testa umbilicata, turbinato-depressa, solida, spiraliter crebrilirata, sub epidermide nigrante obsolete pallide marmorata et ad suturam articulata; spira breviter turbinata, apice cornea, obtuse mucronulata; anfr. 5½ rapide acræcentibus, ultimo magno, ad peripheriam carina subacuta, funiformi munito, superne turgido et subcarinato, prope suturam planulato, basi convexo, circa umbilicum late infundibuliformem angulato; apertura diagonalis, subcirculari, intus nitidissime aurantiaco-lividæ; perist. continuo, breviter adnato, superne angulatim producto, undique valde incrassato et breviter reflexo, lucide fusco-igneo.
Diam. maj. 54, min. 42, alt. 27 mill.
Hab. Walaghat, Koondah Mountains, near Calicut (F. Pirrie).

15. Cyclostoma griseum, Pfr. C. testa vix perforata, turrito-conica, solidula, spiraliter confertim sulcata, vix nitidula,
liliaceo-grisea; spira elevato-conica, apice acutiuscula, flavida; sutura mediocri; anfr. 6 modice convexis, ultimo $\frac{2}{3}$ longitudinis aequante, infra medium fascia pallida alteraque fuscula ornata; apertura obliqua, rotundato-ovali, intus fuscula, fasciata; perist. interrupto, marginibus approximatis, dextro recto, columnari subdilatato, fornicatim patente.—Operc. ?

Long. 17, diam. 10 mill.

Hab. Madagascar.

16. Cyclostoma Venezuelense (Chondropoma ?), Pfr. C. testa subperforata, turrita, truncata, tenui, longitudinaliter capillaceo-striata, hand nitente, diaphana, fulvida, fasciis circa 6 angustis, rufis, interdum obsoletis ornata; sutura subdenticulata; anfr. superf. 5½ convexit, ultimo antice brevissime soluto, basi iris nonnullis spiralibus circa perforationem punctiformem munito; apertura verticali, subirregulariter ovali, intus concolore; perist. simplice, superne in auriculam angularatam producto, marginibus dextro et basali breviter expansis, sinistro angusto, adnato.

Long. $17\frac{1}{2}$, diam. 7 mill.

Hab. Venezuela.

17. Cataulus marginatus, Pfr. C. testa vix perforata, subfusiformi-turrita, solida, subarcuati costulato-striata, opaca, fusco-lilacea, strigis angulosis albidis marmorata; spira subcurvilin ear, turrita, apice obtusa; sutura levi, filomarginata; anfr. 8 planiusculus, ultimo vix attenuato, carina basali alba, compressa, antorsum subdilatata; apertura verticali, subovali; perist. albo, duplice, interno basi profunde inciso, externo patente, ad canalem mediocrem retracto.

Long. 16, diam. 5½ mill.

Hab. Ceylon.

18. Pupina Cumingiana (Pregistoma), Pfr. P. testa imperfecta, oblonga, utrinque attenuata, solidula, glabra, nitida, rubello-succinea; spira elongata, apice acutiuscula, sutura lecissina; anfr. 6 vix convexiusculus, 2 ultimis lati, ultimo oblique descendentem; apertura verticali, circulari; perist. callosos, expansiusculos, marginis columnellaris brevi, non dilatato, incisura mediocri a basali separato.

Long. 8, diam. 3½ mill.

Hab. Salomon’s Islands.

19. Helicina modesta, Pfr. H. testa subgloboso-conica, solidula, oblique striatula vel sublaevigata, nitidula, unicolor straminea; spira conica, acutiuscula; anfr. 4½ modice convexis, ultimo turgido, basi planiusculo; columna brevi, incrassata, alba, calillum emittente nitidum, circumscriptum; apertura obliqua, subtriangulari-semioranii; perist. simplice, recto, margine dextro antorsum subdilatato, basali ad columnellam subsinuato.

Diam. maj. 6, min. 5, alt. 4 mill.

Hab. Tanna, New Hebrides.
20. Helicina articulata, Pfr. H. testa sublenticulari, carinata, tenui, striatula, nitida, rubello-fusca, pallidius strigata, fascis 2, castaneo et albo articulatis ad suturam et carinam ornata; spira convexiusculo-conoidea, acuminata; anfr. 4½ subplanis, sensim accrescentibus, ultimo infra carinam subacutam convexo; columella breviter recedente, callum emittente tenuem, albidum, sulco liceo circumscripturn; apertura diagonal, subtriangulari; perist. simplice, recto, acuto, marginibus vix arcuatiss. Diam. maj. 5, min. 4½, alt. 3 mill.
Hab. Tanna, New Hebrides.

21. Helicina riparia, Pfr. H. testa conica, tenuiuscula, oblique striatula, alba; spira conoidea, acutiuscula; anfr. 5½ convexiusculis, sensim accrescentibus, ultimo spira breviore, basi subconvexo; columella a basi rectangule descendentem, breviter recedente, callum emittente tenuem, circumscripturn; apertura obliqua, fere semicirculari; perist. simplice, undique breviter expanso.
Diam. maj. 7, min. 6½, alt. 5 mill.
Hab. Calamar, on the banks of Magdalena River, New Granada.

22. Helicina foveata, Pfr. H. testa orbiculato-conoidea, tenuiuscula, subglobigata, nitidula, flavo vel fusco-rubella, pleurisque fasciis saturatoribus et pallidis ornata; spira convexa, submucronata; anfr. 5½ convexiusculis, sensim accrescentibus, ultimo non descendente, basi convexiore, fovea profunda juxta columnam brevem, subdenticulatam notato; apertura parum obliqua, semiovali; perist. tenui, undique vix expansiusculo.
Diam. maj. 7½, min. 7, alt. 4½ mill.
Hab. St. Thomas, West Indies.

23. Helicina conoidea, Pfr. H. testa conoidea, tenuiuscula, subscabre striata, vix nitidula, pallide cornico-grisea; spira regulariter conoidea, acutiuscula; sutura leviter impressa; anfr. 4½ subplanulatis; sensim accrescentibus, ultimo utrinque convexior, peripheria subcarinato; columnella brevi, deorsum attenuata, callum basalem emittente tenuem, circumscripturn; apertura diagonal, integra, subtriangulari; perist. simplice, marginem supero vix expanso, basali subincurssato, reflexiusculo.
Diam. maj. 5½, min. 4¾, alt. 3½ mill.
Hab. Barbadoes, West Indies.


1. Physa Salleana, Dkr. Ph. testa ovato-acuta, fusco-cornica, mucronem versus obscuriore, nitidissima, subdiaphane, tenerrenme striata, fere levigata; spira conica, apice paulum obtusa; anfractibus convexiusculis, sutura albida, perparum impressa
divisis; apertura ovato-acuta; columella lactea, basi subemarginata.

Altit. 6 lin.

Hab. St. Domingo (Salle).

Species variatibus certis Physce heterostrophce similis, sed habitu graciliore, anfractibus minus convexus, colore fusco-corneo et labro tenui satis diversa est.

2. Planorbis refulgens, Dkr. P. testa solidiuscula, nitidisima, tenerrime striata, fere glabra, fusco-cornea, supra lat. umbilicata, infra plano-concava; anfractibus subtumidis, rotundatis, modice crescentibus; apertura oblique ovata, subauriculata.

Altit. testae 2½ lin.; lat. max. 7½ lin.

Hab. St. Domingo (Salle).


3. Planorbis Salleanus, Dkr. P. testa tenui, parvula, cornea haud nitente, temuita striata spiraliterque subhirsuta, supra plana, infra satis profunde umbilicata; anfractibus quatuor rotundatis, haud involutis, modice crescentibus; apertura subrotunda, obliqua, paullo dilatata.

Altit. ¾ lin.; lat. max. 2 lin.

Hab. St. Domingo (Salle).

Species parvula, Planorbi albo similis.

April 12, 1853.

John Gould, Esq., F.R.S., in the Chair.

The following papers were read:—

1. Notice of an Original Painting, including a Figure of the Dodo, in the Collection of his Grace the Duke of Northumberland, at Sion House. By W. J. Broderip, V.P.Z.S., F.R.S. etc.

Professor Owen, at whose disposal the Duke of Northumberland placed the following additional pictorial evidence of the existence of the Dodo in the seventeenth century, has requested me to draw the attention of this Society to the highly interesting picture which the
Duke has been so good as to send for the inspection of the Fellows. The size of the picture, which is in the finest preservation, is thirty-two inches by nineteen. It is executed in oil, and bears the following monogram and date. Mr. William Russell, with his usual discernment, detected in this monogram the signatures of Jean Goeimare and Jean David de Heem, and proved the correctness of his judgment by a reference to Brulliot*. Jean Goeimare, who is not noticed by Descamps, Bryan, Sandrart, or Houbraken, is described by Brulliot as a Flemish artist who flourished at the commencement of the seventeenth century, and painted landscapes with many animals, executed with great care, but in rather a dry manner †. Of De Heem, the celebrated painter of still life, it would be superfluous to say anything. We may conclude, then, that in this joint production the landscape and animals were painted by Goeimare, and the shells by De Heem.

* Dict. des Monogrammes, 1 partie, pp. 274, 201.
† I am indebted to Mr. Russell for this information.
In this picture, which seems to have been intended as a record of rarities, the foreground represents a sea-shore from which the tide has retired, leaving empty shells of the following genera:—Nautilus, Pteroeeras, Strombus, Triton, Pyrula, Cassis, Cyprea, Conus, Mitra, Turbo, Nerita, Mytilus, Ostrea, &c. Behind, on elevated ground, are two ostriches, and below, to the right of the spectator, the Dodo is represented as in the act of picking up something from the strand. The head and body of the bird, covering an area as large as the palm of a man’s hand, are seen, but the legs are hidden. The painter of the Dodo in my picture, has given the only complete foreshortened back view of the bird known to me. In the Duke’s picture the head and body are presented to the spectator on a larger scale, and I have nowhere seen the hood or ridge at the base of the bill, from which the bird obtained the name of Cygnus cucullatus, so clearly represented. Near the Dodo are a smew and other aquatic birds, and further off hoopers and terns. In the distance is the ocean, with a sea-monster awaiting the attack of Perseus, who descends on a winged steed to the rescue of Andromeda chained to a rock. Those who have had occasion to describe and figure new species of Testacea, know how difficult it is to find a draughtsman who can give a correct design of the shell to be represented. Unless the artist, like Mr. G. B. Sowerby, jun., is aware of the internal structure of the shell, and acquainted with its organization, a lamentable failure is generally the result. In the picture before us, with one exception—and even in that the specimen may have been distorted—so accurate was the eye of the painter, that if he had been aware of the organization of each shell—knowledge which he probably had not—he could not have represented the objects more correctly. The Nautili *, Strombus gigas, Triton, and Pyrula, are painted with great breadth and power, and all are drawn and coloured with wonderful truth; indeed a conchologist may name every species. One of the Nautili is partially uncoated, to show the nacre, and the other dissected, to display the concamations. None of the shells have the epidermis, and all are of the natural size. The artificial condition of these subjects, and especially of the Nautili, is, it must be allowed, rather out of place in an assemblage of testaceans left on the sands by the retired tide, unless we are to suppose that the sea-nymps had been amusing themselves by polishing the specimens and displaying the internal structure of one of them; but this very treatment shows that the designs were accurately made from real objects then considered as rarities. With the exception of the Dodo, none of the natural objects represented are now rare. The shells, especially those whose habitats are the seas of the Antilles, are at present very common; but at the date of the picture—the second year of the reign of our first Charles—the natural productions of the West Indies were not well known, and were, comparatively, very scarce. With the shells on the shore is the cranium of a carnivorous quadruped, apparently of the family Canidae. The monster-cetacean in the distance has

* Nautilus pompilius.
evidently no chance with the avenger who is coming down upon him mounted on a winged steed. But Pegasus, who, with other prodigies, sprang from the blood that dropped from Medusa’s head, as the conqueror who had cut it off with his harpe traversed the air with his gory trophy, immediately winged its flight to Helicon, there to become the pet of the Muses. The best version of this mythological story relates that when Persens afterwards killed the sea-monster and delivered Andromeda on the coast of Ethiopia, he effected his purpose by raising himself in the air through the aid of the wings and talaria given to him by Mercury, and not with the help of the winged horse on which most of the painters mount him. Professor Owen informs me that Roland Savery’s picture containing the Dodo, in the Berlin collection, bears the date of 1626; and that the colour of the Dodo in the Duke of Northumberland’s picture resembles that of the portrait of the bird, of life size, by the same painter, now at Oxford. L’Estrange describes the hue of the back of the living Dodo which he saw exhibited in London “about 1638,” as of “dunn or deare colour.”

2. Descriptions of Eighteen New Species of Land Shells, from the Collections of Mr. Dennison and H. Cuming, Esq. By Dr. L. Pfeiffer.

1. Anostoma carinatum, Pfr. A. testa longe rimata, conoideo-lenticulari, solidula, acute carinata, pallida, supra carinan et ad suturam angustiae castaneo-fasciata; spira breviter conoidea; anfr. 5 planiusculis, superis striatulis, ultimo irregulariter et undulatim costulato-striato, basi convexo, castaneo-maculato, antice scrobiculato; apertura peripheriam spira continuante, semicirculari, lamellis 6 validis, flexuosus coarctata; perist. albo, late expanso et reflexo, margine dextro ad insertionem foramine magno, oblongo munito.

Diam. maj. 24½, min. 19, alt. 13 mill.
Hab. Brazil.

2. Helix Dennisoni, Pfr. H. testa imperforata, subglobosa, solidula, striatula, non nitente, opaca, alba, strigis crebris, angustis, nigricantibus et fulvis, subflexuosis radiata; spira conoideo-semiglobosa, obtusula; anfr. 5 convexis, ultimo rotundato, antice subito deflexo, constricto; apertura parvula, perobliqua, lunari, intus nitide livida; perist. intus fusco-labiato, marginibus callo intrante, saturate castaneo-junctis, dextro perarcuato, vix expanso, basali dilatato, plano, adnato, castaneo.

Diam. maj. 29, min. 18, alt. 15 mill.
Hab. Cuba (Powis).

3. Helix MacAndrewiana, Pfr. H. testa imperforata, conoideo-globosa, solidula, striis incrementi et confertissimis spiralibus sub lente decussata, pallide rosea, lineis nigro-spadiceis confertis cincta; spira conoidea, apice rubra, obtusa; sutura mediocrí;
anfr. 4, superis convexiusculis, ultimo inflato, antice vix descendente, basi unicolore roseo; apertura parum obliqua, rotundato-lunari, intus sordide vinosa; perist. simplice, marginibus distantiibus, dextro acuto, columnellari purpurascens, sursum dilatato, reflexo, adnato.
Diam. maj. 17, min. 14, alt. 13 mill.
Hab. Great Salvages Island (MacAndrew).

4. Helix Guttula, Pfr. H. testa imperforata, convexo-depressa, tenui, levigatissima, nitida, pellucida, fusco-cornea; spira fornicata; sutura levii, submarginata; anfr. 5, convexiusculis, lente accrescentibus, ultimo non descendente, rotundato-lunari; apertura subverticale, perist. simplice, recto, acuto, marginibus convergentibus, columnellari superne patente.
Diam. maj. 5, min. 4$\frac{3}{4}$, alt. 2$\frac{3}{4}$ mill.
Hab. New Zealand.

5. Helix Ceroïdes, Pfr. H. testa mediocriter umbilicata, convexo-depressa, tenui, minutissime striatula, griseo-crea; spira parum elevata; sutura subprofunda; anfr. 4, convexiusculis, sensim accrescentibus, ultimo non descendente, rotundato; apertura subverticale, perist. simplice, recto, acuto, marginibus convergentibus, columnellari superne patente.
Diam. maj. 5, min. 4, alt. 2$\frac{1}{2}$ mill.
Hab. Juan Fernandez.

6. Helix Armida, Pfr. H. testa subperforata, subrubinata, tenuissima, minute striatula, diaphana, nitidula, fulvo-cornea; spira convexo-conoidea, vertice subtili obtusulo, sutura impressa, albo-marginata; anfr. 6, convexiusculis, lente accrescentibus, ultimo non descendente, rotundato-lunari; perist. simplice, recto, acuto, marginibus convergentibus, columnellari declivi, superne subincrassato.
Diam. maj. 16, min. 14, alt. 8 mill.
Hab. Philippines, Mount Isarog, isle of Luzon.

7. Helix Veronica, Pfr. H. testa umbilicata, depressa, discoidea, radiatim minutissime striatula, ad suturam obsolete spiraliter striata, pellucida, nitida, virenti-cornea; spira plana, levissime immersa; sutura vix impressa; anfr. 3$\frac{1}{2}$, subplanis, rapide accrescentibus, ultimo non descendente, depresso, peripheria rotundato; umbilico mediocri, parum profundo, medio contracto; apertura parum obliqua; rotundato-lunari; perist. simplice, recto, acuto, marginibus convergentibus, superne et inferne aequalibus.
Diam. maj. 12, min. 10, alt. 4$\frac{2}{3}$ mill.
Hab. Salomon’s Islands.

8. Helix Rapida, Pfr. H. testa umbilicata, depressa, discoidea, tenui, sub lente spiraliter striolata, nitida, pellucida, castanea, strigis et punctis luteis variegata; spira plana, subimmersa; sutura subcanaliculata; anfr. 3$\frac{1}{2}$, convexiusculis, rapide accrescen-
tibus, ultimo lato, depressio, peripheria rotundato, antice non descendent, basi parum convexo, sensim in umbilicum mediocrem ascendente; apertura parum obliqua, lunato-rotundata; perist. simplice, recto, acuto, marginibus subconniventibus.
Diam. maj. 7\(^{\frac{3}{4}}\), min. 6\(^{\frac{2}{3}}\), alt. 3 mill.
Hab. New Zealand and Salomon's Islands.

9. Helix conomphala, Pfr. H. testa umbilicata, perdepressa, discoidea, tenui, vix striatula, acutissime carinata, pallide fulva, superne et inferne fasciis singulis, angustis, rufis ornata; spira vix elevata; sutura initio profunda, tandem lineari; anfr. 4, rapide accrescentibus, primis convexiusculis, ultimo non descendent, carina brevi acutissima, utrinque marginata munito, basi vix convexiore; umbilico \(\frac{1}{6}\) diametri subaequante, regulariter conico; apertura obliqua, depressa securiformi; perist. simplice, recto, margine supero obtruncato acruato, basali ad umbilicum arcualim ascendente, superne subincrassato.
Diam. maj. 26, min. 22\(^{\frac{1}{2}}\), alt. 7 mill..
Hab. Philippine Islands.

10. Helix Huaheinensis, Pfr. H. testa late umbilicata, convexo-depressa, tenuiuscula, striata, opaca, pallide cornea, rufo strigata et macula lutea, sublente subinterruptis luteis et angustis, nigrantibus ornata; spira convexa, minutissime macronata; sutura lineari; anfr. 6, planiusculus, lentissime accrescentibus, ultimo carinato, non descendent, basi circa umbilicum subcompresso; apertura obliqua, subtetragona, lamella intrante parietai coarctata; perist. simplice recto, marginibus vix convergentibus.
Diam. maj. 6, min. 5\(^{\frac{1}{2}}\), alt. 2\(^{\frac{3}{4}}\) mill.
Hab. Huaheine, Society Islands.

11. Helix fucata, Pfr. H. testa imperforata, conica, solidiuscula, sub lente spiraliter striata, nitida, alba, fasciis subinterruptis luteis et 3 angustis, nigrantibus ornata; spira conica, acutiuscula; sutura levii; anfr. 5, vix convexiusculis, ultimo non descendent, superne punctis corneis pellucidis irregulariter disperso, peripheria obsoleta angulato, basi planiusculo, macula columellari nigra picto; apertura diagonalis, rotundato-lunari, intus late spadico-fasciata; perist. simplice, margine dextra recto, acuto, basali subreflexo, columellari superne dilatato, violaceo.
Diam. maj. 17, min. 15, alt. 14\(^{\frac{1}{2}}\) mill.
Hab. Wide Bay, east coast of Australia (Strange).

Diam. maj. 13, min. 11\(^{\frac{1}{2}}\), alt. 8\(^{\frac{1}{2}}\) mill.
Hab. Shanghi, China (Fortune).
13. Vitrina Keppelli, Pfr. V. testa depressa, ambitu oblonga, tenui, arcuatim præsertim ad suturam striatula, nitidissima, pel lucida, albido-virente; spira plana, vertice subtili vix prominulo; sutura impressa, submarginata; anfr. vix 3, rapi de accrescentibus, ultimo basis convexo, angusta; apertura ampla, obliqua, ovali; perist. simplice, recto, margine dextro antrorsum dilatato, columellari peracruato, membranaceo-submarginato.

Diam. 14, alt. 6 mill.

Hab. New Caledonia (Kepell).

14. Vitrina planospira, Pfr. V. testa ambitu ovali, tenui, striatula, pellucida, nitida, corneo-virente; spira plana; vertice subtili vix prominulo; sutura impressa, submarginata; anfr. vix 3, rapide accrescentibus, ultimo basis convexo, angusto; apertura ampla, obliqua, ovali; perist. simplice, recto, margine dextro antrorsum dilatato, expansiusculo, columellari peracruato.

Diam. 13, alt. 7 mill.

Hab. Salomon’s Islands.

15. Vitrina Salomonia, Pfr. V. testa globosa conica, tenuissima, confertim oblique plicata, pellucida, nitida, fusco-olivacea; spira conica, obtusiuscula; sutura impressa; anfr. 4, convexis, ultimo $\frac{3}{4}$ longitudinis subæquante; apertura obliqua, ovali; perist. simplice, recto, marginibus regulariter arcuatis.

Diam. 9, alt. 11 mill.

Hab. Salomon’s Islands.

16. Succinea margarita, Pfr. S. testa ovato-conica, tenuissima, striatula, nitida, pellucida, pallidissime luteo-cornea; spira brevis, obtusa; anfr. 3, penultimo convexo, ultimo $\frac{3}{4}$ longitudinis formante, dilatato; columella simplice, vix callosa, leviter arcuata; apertura obliqua, subregulariter ovali, ubique incumbente; perist. simplice, recto, marginibus regulariter arcuato.

Long. 7, diam. 5 mill.

Hab. St. Domingo (Sallé).

17. Helicina Barbadensis, Pfr. H. testa sublenticulari, tenui, sub lente irregulariter rugulosa, hauud nitida, diaphana, lutescenti-albida; spira breviter conoidea, acuminatiuscula; sutura vix impressa; anfr. 4½, subplanulatis, celeriter accrescentibus, ultimo utrinque convexiœsculo, peripheria acute carinato, carina antice obsoletiore; columella brevis, callum emittente parvulam, circumscriptum; apertura diagonalis, triangulari-semiovali; perist. simplice, undique reflexiœsculo.

Diam. maj. 6, min. 5, alt. 3 mill.

Hab. Barbadoes.

18. Helicina (Alcadia) rubella, Pfr. H. testa conoideo-depressa, tenui, oblique striatula, breviter pilosa (detrita oleoso-micante, diaphana); rubello-cornea; spira convexa, vertice mucronulato; anfr $5\frac{1}{2}$, angustis, vix convexiœsculus, ultimo ad periphe-
riam obsolete subangulato, basi convexiore; apertura fere diagonal-
nali, semilunari; columella brevi, in denticulum sulco a callo basali
tenusissimo separatum desinente; perist. tenui, undique breviter
expanso, margine basali subrectilinari, incisura levi a columella
separato.—Oerc. membranaceum, concolor.

Diam. maj. 6½, min. 5½, alt. 4 mill.

Hab. St. Thomas, West Indies.

   By John Gould, F.R.S.

Mr. Gould exhibited five new species of Humming Birds; four
collected on the eastern slope of the Andes by M. Warzewicz, remark-
able for their size and their great beauty, and one lately received by
M. Linden of Brussels, from the Sierra Nevada of Santa Martha, at
an elevation of 5000 feet. They were described and named as
follows—

1. Helianthea Iris.

   Forehead magnificent green, succeeded on the sides by rich orange
   and in the centre by blue, all with a highly metallic lustre; throat,
   neck and chest glittering green, with a small gorget of purplish
   feathers in the centre of the former; posterior part of the body and
tail chestnut-red.

   Total length, 5½ inches; bill, 1½; wing, 3½; tail, 2½.

   Hab. Eastern slope of the Andes.

2. Helianthea Aurora.

   The whole of the crown rich metallic green; throat and back of
   the neck also metallic green, but not so lustrous as on the crown;
   body and tail chestnut-red, as in the preceding species, but not of so
dep a hue.

   Total length, 5½ inches; bill, 1 1/16; wing, 3; tail, 2.

   Hab. Eastern slope of the Andes.

3. Heliangelus viola.

   Throat and upper part of the chest of the most beautiful violet
   colour; spot on the forehead brilliant verditer-green; neck, back and
   abdomen green; tail black.

   Total length, 5 inches; bill, 3 3/4; wing, 2 7/8; tail, 2 1/2.

   Hab. Eastern slope of the Andes.

   Remark.—Somewhat allied to Heliangelus Parzudaki.

4. Trochilus (——?) cyanocollis.

   Crown of the head and sides of the neck greenish blue; upper
   surface bronzy green; under surface snow-white; tail bronzy green,
   obscurely crossed near the tip with a dusky band, except the two
   middle feathers.

   Total length, 3½ inches; bill, 3/8; wing, 2 3/8; tail, 1 1/2.

   Hab. Eastern slope of the Andes.

   Remark.—Nearly allied to Trochilus Francic.
5. **Trochilus (— ?) Floriceps.**

Forehead buffy white, passing into a beautiful deep peach-blossom hue on the crown; throat grey, passing into the rufous of the abdomen; middle tail-feathers bronzy; lateral tail-feathers largely tipped with buff.

Total length, $3\frac{1}{4}$ inches; bill, $\frac{7}{16}$; wing, $1\frac{7}{8}$; tail, $1\frac{5}{6}$.

*Hab.* Sierra Nevada of Santa Martha, at an elevation of 5000 feet.

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May 10, 1853.

W. Yarrell, Esq., in the Chair.

The following paper was read:

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**On a New Species of Thalassidroma.**

**By George Robert Gray, F.L.S. & F.Z.S.**

A specimen of a Stormy Petrel, from the north-west coast of America, has lately been kindly presented to the British Museum by Miss Hornby; as it differs from all those that I am acquainted with, I am induced to bring it before the meeting.

In form it agrees best with *Thalassidroma furcata*, but the coloration differs much in several particulars.—Front, cheeks, throat, collar round the hind part of the neck, breast and abdomen pure white; crown, hind head, a broad band in front of neck, bend of wing and lesser wing-coverts sooty grey; upper part of back grey; lower part of back and tail ashy grey; greater wing-coverts brownish grey; tertiaries and quills deep black.

Total length, $8\frac{1}{4}$; bill from gape, $10\frac{1}{2}$, from front, $8\frac{1}{4}$; tail (outer feather), $3\frac{3}{4}$; tarsus, $1$; middle toe, $1$.

I propose to give this species the appellation of *Thalassidroma Hornbyi*, after Admiral Hornby, who obtained it during his command on the Pacific station, where he collected many interesting animals for his brother-in-law, the late President of this Society.
May 24, 1853.

Dr. Gray, Vice-President, in the Chair.

The following paper was read:—

**Notes on a Cetaceous Animal stranded on the North-east coast of Ireland. By George Gulliver, F.R.S.**

On Saturday, May 14, 1853, a herd of cetaceous animals appeared at Dundrum Bay, many of which got away, and others were stranded. I saw on the following days about twenty-five of them lying dead there on the sand. The largest was nearly nineteen feet, and the smallest between nine and ten feet long. They were all furnished with perfect teeth. The greater number were females; in a group of nine large ones, lying near together, six were females and three males.

I was told that their death-throes were dreadful; they rose on their tails, bellowed like bulls, floundered about, and spouted bloody sand and water, as they were attacked with different destructive instruments by the peasantry. From one of the animals, between sixteen and seventeen feet long, a perfect foetus, presently to be described, was taken, so that the breeding time of this species may be considered as now determined. One of them had the iron head of a harpoon imbedded in its back, and the wound completely healed over. In the second large compartment of the stomach were numerous fish-bones, completely denuded of all soft parts by digestion. The following measurements may be useful for future reference:

<table>
<thead>
<tr>
<th>Measurements of a Male</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from the snout to the end of the middle of the tail</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>Greatest girth, excluding back fin</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Length of pectoral fin</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Breadth of base of pectoral fin</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Breadth of pectoral fin at one foot from its point</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Length of base of back fin</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Height of back fin</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Breadth of tail from point to point</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurements of a Female</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length from snout to end of middle of tail</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Greatest girth, excluding back fin</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Girth one inch behind eyes</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Length of each side of mouth</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>From snout to eye</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>From eye to blowhole</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>From snout to base of pectoral fin</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>The blowhole behind a line intersecting the eyes</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
From the snout to beginning of dorsal fin ..... 4 11
From the end of the base of the dorsal fin to
the end of the middle of the tail ............ 8 6
From snout to vent ................................ 10 4
From snout to the orifice of the vagina ...... 10 0
From snout to the mammary slits ............. 10 0
From point of lower jaw to the navel ....... 6 0
From the eye to the angle of the mouth ..... 0 43
The eye above a line drawn from the base of the
upper jaw along centre of the sides of the body 0 3
From the knob of the snout to the upper lip . 0 10
Length of the mammary slit .................... 0 3
Transverse distance from mammary slit to or-
ifice of the vagina ................................ 0 4
Dorsal fin at its base .............................. 2 6
Dorsal fin over its convexity .................... 3 0
Height of dorsal fin ............................... 1 2
Length of pectoral fin ........................... 3 5
Breadth of base of pectoral fin ............... 0 10
Length of opening of eyelid .................... 0 13
Diameter of eyeball .............................. 0 13
Diameter of cornea ................................ 0 13
Length of crown of tooth ...................... 0 13

Measurements of a Foetus.

Length from snout to the end of the middle of
the tail ............................................ 4 8
Girth, excluding back fin ....................... 2 51
From centre of snout to opposite the base of the
pectoral fin ........................................ 1 0
Snout to beginning of the back fin ........... 2 0
From the upper lip to the blowhole .......... 0 9
From point of lower jaw to navel .......... 2 1
From point of lower jaw to vagina .......... 2 10
From the eye to the centre of the snout .... 0 7
Length of base of back fin ...................... 0 8
Height of back fin ................................ 0 3
Length of pectoral fin .......................... 0 11
Breadth of base of pectoral fin .............. 0 3
Length of intestines ............................ 30 0

Anatomy.—Through the kindness of Mr. Brabazon, the excellent
surgeon of Downpatrick, I had an opportunity of examining the foetus
of which the measurements have just been given. As the dissection
was suddenly stopped, the details are imperfect, though accurate as
far as they go. The skin was of a dark leaden colour, and the
blubber on the sides of the body about half an inch thick. There
were soft fringes or processes of the gums, corresponding in situation
and number to the coming teeth.
The thymus of moderate size, at the usual situation in the chest, and sending no process to the neck. The spleen and a spleniculus together scarcely so big as a walnut. A flat rounded gland, about three-fourths of an inch in diameter, situated above the renal vessels on each side, and at a distance of upwards of an inch from the kidney, had more the appearance of a lymphatic gland than of the suprarenal body.

On opening the chest, each lung was seen to be covered with lymphatic vessels, running to a gland at the sterno-ventral aspect of the free edge of the lung. The gland was very juicy, had every appearance of a lymphatic gland, and measured one inch and a quarter long and five-eighths broad. This pulmonary gland in the adult is harder, more fibrous, and less juicy, and measures four and a half inches long by two broad.

The stomach with two chief compartments; the first continuing backwards on a line with the gullet, and lined, like it, with a white thick smooth membrane and epithelium; the second, or true digesting stomach, lined with a mucous membrane in folds, and somewhat smaller than the first, of a more rounded form, and extending from its middle to the duodenum. In the first was a quantity of thick, opaque, whitish fluid, and in the second a little mucus.

There was no gall-bladder. The bile-duct, close to the duodenum, was as thick as a goose quill. The last portion of the intestine was full of meconium, like that of the human foetus.

There was no caæcum; the intestines were nearly uniform in size throughout, their surface smooth and not at all cellulated. Length of the whole intestinal canal, from stomach to vent, thirty feet.

The kidneys large and lobulated throughout; the lobules from a quarter to half an inch in diameter, and having each a very delicate capsule of connecting tissue. The blood-vessels enter the kidney, not near its middle, but at its fore and inner or atlanto-mesial end.

The mesenteric glands moderate in size and number, of uniform consistency, and without any cavity or hollow in them, unlike those of the whale described by Mr. Abernethy.

The womb with two horns, and the ovaries in the usual situation; mammary slits on a level with and near to the orifice of the vagina. Urinary bladder empty, and the urethra opening just behind the clitoris.

Descriptive Characters.—Teeth conical and slightly curved inwards, from eight to twelve on each side of the jaws, making from thirty-two to forty-eight teeth altogether; but eleven on either side of each jaw is a common number, and there is sometimes one more in the upper than in the under jaw on each side. Dorsal fin large, convex above and extending behind into a hooked or curved point. Pectoral fins long, narrow, and tapering to a point. Tail crescent-shaped. Mouth sloping downwards and forwards. Eyes above and behind the angles of the mouth. Top of the head round, and not prominent, though the snout is remarkably so. No nipples yet protruding, but merely a longitudinal mammary slit on each side of the orifice of the vagina.

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in the female; a large penis in the male. Skin smooth, shining, and black throughout, save two whitish brown patches at the throat and near the vent and genitals; in a few males and females this light colour extends in a narrow strip from these points along the under part of the body, but never behind the eye, or elsewhere.

The blubber was \( \frac{1}{6} \)ths inch thick on the sides, much thicker on the back, and composing the whole thickness of the snout. The cuticle, which on its outer surface was like oil skin, when stripped off, exhibited on its under side a jet-black velvet-like rete mucosum, furnished with a very great abundance of black pigment. Around the eyeball was a firm bony plate in the sclerotic coat; and a white funnel-shaped ligament, extremely thick, tough and strong, was attached by its base to the eyeball, and surrounded the optic nerve.

As there is no opportunity here of consulting the published descriptions and figures of the Cetacea, I am uncertain at present of the species of this one. It does not correspond with any description in the Rev. Leonard Jenyns's 'Manual of the Vertebrata,' a copy of which is my travelling companion. The present animal approaches nearest to his Grampus (Delphinus oreas) and Ca'ing Whale (D. melas of Traill and D. deductor of Scoresby). But it is smaller than either of them, though I suspect it will prove to be Traill's D. melas, and has not the white spot behind the eye, nor the broad pectoral fins of the Grampus, nor the very convex top to the head, the small average number of teeth (which he makes only twenty-four in all), nor the colour of the skin of his Ca'ing Whale. The animals which I examined had a convex rounded snout, its thickness made up of gristly blubber, which it is possible may have been erroneously described as the "top of the head." The Rev. Charles Archibald, whom I had the pleasure of meeting among the carcases, directed my attention to the difference between the pectoral fins of this species and those of the Grampus.

The relative position of the back fin, so much more forward in the adult than in the foetus, is remarkable; and, indeed, the comparative measurements exhibit some interesting facts as to development.

Dundrum, co. Down, May 20, 1853.

Postscript.—The animal is undoubtedly the same as that described under the name of the Uyea Sound or Ca'ing Whale by Mr. Patrick Neill in 1806, and afterwards figured by Dr. Traill from a drawing by Mr. James Watson; by Cuvier; by Captain Scoresby, Mr. Bell, and Mr. Couch.

But though these figures are sufficient to identify the species, they all represent the pectoral fin as narrower at the base than it really is; and most of them show a twist of the tail, which was observed in none of the specimens at Dundrum Bay. Cuvier's plate is the only one that gives an idea of the pointed end of the dorsal fin; all the others represent this posterior termination of the fin too blunt, rounded, or short, though Mr. Couch correctly describes it as falcate.

No doubt, the foetus, 4 feet 8 inches long, from Dundrum Bay,
was nearly ready for birth in the middle of May. Dr. Traill mentioned sucklings five feet long in December 1806, at Scapay Bay, one of the Orkneys; Mr. Neill says that most of the adult females at Uyea Sound, Unst, were either pregnant, or giving suck to their toothless young, in February and March 1805; and in January 1812, in the neighbourhood of Paimpol, near the northern extremity of Bretagne, M. Lamait found the young seven or eight feet long, and with cuttle-fish, cod, and milk in their stomachs.

M. F. Cuvier states that this species is remarkable for the spherical form of the anterior part of the head, and that his brother had named it "globiceps, à cause de la forme arrondie de sa tête." But the "very rounded top of the head," or "remarkably convex and prominent forehead," included by systematic writers in the specific characters of the Ca'ing Whale, and even among the otherwise judicious observations of Mr. Couch, does not properly belong to it; for the forehead of the skull is flat, as in other porpoises, though the prominent upper muzzle or snout-knob is sufficiently remarkable, and not badly represented in the plates already mentioned.

But, as I have caused a young skull to be sent to the British Museum, and Mr. Brabazon has presented a complete skeleton of the adult male animal to the same national collection, Dr. Gray has examined them, and that eminent zoologist has favoured me with the following note of the result:—"I have compared the skeleton with the species which have been usually described under the name of D. globiceps, and it would appear that the shape of the head of the animal scarcely justified that name; I can find no difference between the Irish and the other specimens."

June 14, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

Dr. Crisp exhibited the alimentary canal and ova of a Cuckoo (C. canorus), dissected on the 30th of May last. Some facts were observed that were thought of sufficient interest to place before the Society. A perfect egg was found in the oviduct, ready for expulsion, and about fifty in the ovary; two of the size of large peas, the others much smaller; a circumstance which tends to confirm the opinion that the eggs of this bird are deposited at intervals of seven or eight days.

The gizzard was lined with a hair-like substance, which, under the microscope, proved to be the spines from the legs of beetles. The gizzard contained a large quantity of the remains of the Cockchafer, and one of the Click-beetles, but no trace of a Caterpillar was discovered. In 1834 Mr. Thompson exhibited the gizzard of a Cuckoo at the Society (Proceedings, p. 29), and at first the hairy lining was
supposed to be a natural structure, but Prof. Owen, on microscopic examination, believed that the hairs were from the larva of the Tiger-moth (Arctia caja).

Dr. Crisp thought the subject worthy of future inquiry, and that it would be important to ascertain whether this hairy lining is present in the Caprimulgide and other insectivorous birds. As regards the spines of the beetles and the hairs of the larva of the Tiger-moth, the microscope shows this important difference,—the hairs are all furnished with alternate lateral acicula; the spines of the beetles are smooth, with sharp points.

Explanatory drawings of the parts were exhibited.

Dr. Crisp also showed two new species of worms which he had recently obtained; one from the lung of the Egyptian Cobra (Naja Haji) which had been in the Society’s collection. It is 3 inches long, and its chief peculiarity consists in its annular protuberances, twenty-eight in number.

Dr. Baird has described this worm as a new species, in the British Museum Catalogue, under the name of Pentastoma annulatum*.

The other specimens were two nematoid worms, which Dr. Crisp obtained from the knee-joint of the common Coot (Fulica atra). They are of a cylindrical form, highly elastic, and coiled in a spiral manner round each other; the larger of the two, when extended, is about two inches in length, the smaller about an inch and a half; the extremities are tapering; the tail pointed; the head more orbicular. Under a power of 50 diameters, the alimentary canal can be distinctly seen.

Dr. Crisp believed that this worm had not been before described; it most resembled the Spiroptera Falconis of Rudolphi, or the Spiroptera serpentina of Diesing. In the Museum of the London College of Surgeons (prep. 170) there are two Filariae, one about six inches long, from the knee-joint of the Kangaroo (Macropus major); and Diesing, in his Systema Helminthum,* 1850, mentions the Filaria subspiralis, from the tendons of the foot of a Crane; and the Spiroptera serpentina, from the leg and foot tendons of several species of Falcon.

The following paper was read:—

**On a New Species of Dendrocolaptes.**

By Philip Lutley Sclater.

(Aves, Pl. LVII.)

The fine species of Dendrocolaptes which I now bring before the notice of the Society, was discovered by Mr. Wallace in the neighbourhood of Para. My specimen is from the Capin river, where it was collected in June 1849. A second, in Mr. Wallace’s own collection, marked ‘Para,’ is the only other I have seen. Had I not the authority of Mr. Eyton and the Baron de la Fresnaye for considering

* Dr. Baird has also given a description and figure of this worm, in the Proceedings for the present year, page 22. Annulosa, Pl. XXX, fig. 7.
DENDROCOLAPTES EYTONI, Salter.
the present bird as hitherto undescribed, I should hardly have ventured to characterize a species of this family, which is one of those most perplexing to ornithologists, by reason of the great similarity of colouring that pervades the group. The Baron de la Fresnaye, who has lately written a most complete monograph of these birds in the ‘Revue de Zoologie,’ has mentioned this species in a recent number of that periodical, under the MS. name I had proposed for it when on a visit to him eighteen months ago. This makes it desirable, I think, to give it specific characters at once, in order to avoid the evils of leaving a published name without a published description attached.

The specific name is in honour of Mr. Eyton, who has worked a great deal at the Dendrocolaptinae, and published the results of his labours in the shape of descriptions of several new species, and a general list of the whole subfamily, in the ‘Contributions to Ornithology’ for last year.

Dendrocolaptes Eytoni, Sclater. D. supra cinnamomeo-brunneus; caudae colore intensiore, primariis intus ad apices obscurioribus; capitis collique superi plumis nigrescentibus, linea lata mediali fulvo-albida; subtus, mento et gula albis; pectore toto et ventre summo albido flammulatis, singulis plumis plaga mediiali albida utrinque bruneo marginata; ventre imo et lateribus fulvis; tectricibus subalaribus pallide bruneis; rostro paululum incurvo; mandibula superiore nigrescente, inferiore corneo; pedibus nigris.

Long. tota, 9–5; alae, 4–0; rostri a rictu, 1–9; a fronte, 1–5.

Hab. in vicinitate Paræ, imp. Brasiliensis.

June 28, 1853.

W. Yarrell, Esq., in the Chair.

The following paper was read:


1. Gafrarium (Corbis) caelatum, A. Adams. G. testa æquivalvi, subcompressa, æquilaterali, alba, transversim ovali, utrinque rotundata, costellis transversis, concentricis, crenatis et tuberculis triangularibus, squamiformibus in interstitiis pulcher-rime caelata; tuberculis antice et postice validioribus et imbri-catis; margine ventrali arcuato, crenulato.


7. **Murex Salleanus**, A. Adams. *M. testa ovato-fusiformi, sordide alba, fusco variegata; anfractibus convexis, costellis transversis, elevatis, nodulosis, interstitiis elevatim liratis, ornatis; varicibus tribus, transversim costato-spinosis, inter-
stitis nodosis; apertura rotundato-ovali, intus alba, postice canaliculata; canali producta, vix clausa, antice subreflexa. 

_Hab._ Saint Domingo, West Indies. Mus. Cuming.

8. _Murex pauxillus_, A. Adams. _M._ testa ovato-fusiformi, rimata, nigro-fusca, fasciis albis ornata; spira producta, aperturam equante; anfractibus septem; varicibus pareis, sub-confertis; liris duabus, ad varices nodatis; interstititis squamulis instructis; anfractu ultimo fasciis tribus, albis, transversis ornato, varicibus septem et costis asperis, ad varices nodatis, instructo; apertura ovali; labio intus lirato; labro intus albido et nodoso-lirato, extus fimbriato; canali brevi, aperta, vix reflexa.

_Hab._ Gulf of California. Mus. Cuming.

9. _Murex trivialis_, A. Adams. _M._ testa ovato-fusiformi, rufescence, lineis transversis, fuscis ornata; spira producta; anfractibus septem, convexis; varicibus tribus, squamigeris, interstititis nodulis, saepe duplicatis, ornatis; apertura ovali, postice sulcata; labio intus lirato; canali aperta, recta, subproducta.

_Hab._? Mus. Cuming.

10. _Murex fimbriatus_, A. Adams. _M._ testa solida, pyriformi, albida, rufo sparsim variegata; spira brevi; anfractibus quatuor, superne excavatis; varicibus septem, reflexis, fimbriatis, radiatim costatis, concine squamulosis, marginibus lacinios; anfractu ultimo producto, acuminato; apertura rotundata, postice integra, antice canaliculata, recta, canali clausa, antice subrecrurata.

_Hab._ Gulf of California. Mus. Cuming.

11. _Murex scalaris_, A. Adams. _M._ testa scalariformi, umbilicata, sordide alba, rufo-fusco variegata; anfractibus convexis, ad suturas planulatis; anfractu ultimo varicibus costiformibus nocem, liris transversis, elevatis, squamosis, spinulosis, ad costas instructo; apertura ovali, postice integra, antice canaliculata; canali subproducta; labro intus lirato.

_Hab._ Australia, Moreton Bay (Strange). Mus. Cuming.

12. _Murex castus_, A. Adams. _M._ testa ovata, crassa, alba; spira brevi, apice acuto; anfractibus quinque, convexiusculis; ultimo varicibus septem, rotundatis, laminis transversis, subdistantibus, marginibus libris, squamulosis, imbricatis, in serie unica dispositis, ornato; apertura ovali, postice integra, antice canaliculata; canali vix producta, recurvata, aperta; labro crenulato, intus lirato.

_Hab._ China Seas. Mus. Cuming.

13. _Murex armatus_, A. Adams. _M._ testa ovato-fusiformi, umbilicata, alba, spira producta; anfractibus septem in medio angulatis; anfractu ultimo varicibus octo, spinis acutis, promi-
nentibus, majoribus cum minoribus alternantibus, armato, inter-
stitiis costis elevatis, eleganter squamulosis, ornatis; apertura
ovali; labio postice subexpanso, antice tuberculis duobus in-
structo; canali producta, vix recurvata.

14. Murex nitens, A. Adams. M. testa ovato-fusiformi,
rimata, alba, nitida, maculis fuscis sparsim ornata; spira
acuta; anfractibus planiusculis, longitudinaliter costatis, liris
transversis, elevatis, ad costas subspinosis; apertura ovali,
titus lutescente; labio antice obsolete plicato; labro margine
acuto, intus valde lirato; canali brevi, aperta, recurvata.

15. Murex Coreanicus, A. Adams. M. testa ovato-fusiformi,
triquetra, pallide fusca, maculis castaneis sparsim notata; anfractibus sublcevibus, obsolete liratis;
varicibus prominentibus, spinoso-laciniatis, in seriebus tribus dispositis; inter-
stitiis nodo unico ornatis; apertura ovali, labio antice producto,
subreflexo; labro intus tuberculato, antice dente valido in-
structo; canali subrecta, clausa.

16. Murex Australiensis, A. Adams. M. testa fusiformi,
sipa producta, albida, rufo-fusco tincta; anfractibus sex
convexis, transversim valde liratis, liris subasperis, varicibus
prominentibus, spinoso-laciniatis, in seriebus tribus dispositis;
interstitii nodo unico instructis; apertura ovali, intus rubra;
canali producta, recta, aperta, extus fimbriato-spinosa.

17. Murex coccineus, A. Adams. M. testa parva, ovato-fu-
siformi, coccinea; spira acuminata, producta; anfractibus
quinque, transversim valde porcata, porcis ad suturas nodosis;
varicibus aequalibus, mediocribus, in anfractu ultimo sex, superne
subangulato-spinosis; apertura ovali, intus coccinea; labro intus
valde lirato; canali brevi, subreflexa, aperta.

18. Murex despectus, A. Adams. M. testa fusiformi, sordide
alba, nigro-fusco variegata; anfractibus convexis, transversim
liratis, liris rugosis, aequalibus; varicibus tribus, foliato-spi-
nosis, laciniatis, interstitii nodo unico instructis; apertura
ovali, intus alba, postice canaliculata; canali producta, recta,
vix aperta.
Hab. West Indies. Mus. Cuming.

19. Murex subspinosus, A. Adams. M. testa ovato-fusiformi,
serotina, nigro-fusco punctata; anfractibus sex, convexissculis,
transversim valde liratis, liris ad costas nodosis; nodulis
fuscis; varicibus costiformibus, (in anfractu ultimo septem)
obliquis, nodoso-spinosis; apertura ovali, intus aurantiaca,
labio antice triplicato; labro intus valde dentato; canali brevi, aperta, subreflexa.


20. **Pusioella grandis**, A. Adams. *P. testa ovato-fusiformi, alba, laevi, spira producta, acuminata; anfractibus nomen, planisculus, ultimo superne subangulato, antice lineis elevatis, transversis instructo; apertura angusta, ovali; labio levigato, postice calloso, antice carina spirali instructo; canali postice subreflexa; labro simplex, acuto.


A large species entirely of a white colour, and with the surface of the whorls nearly smooth; the outline of the spire is convex, and the shell is of a solid growth.

21. **Pusioella lirata**, A. Adams. *P. testa fusiformi, fuscata, spira producta, acuta; anfractibus decem, planulatis, transversis liratis, liris elevatis, subgranulosis; apertura elongato-ovali, antice producta; canali postice subreflexa; labio simplex, subflexuoso; labro acuto, intus levigato.


A brown aciculate species, with close-set, transverse, somewhat granulated lirae.

22. **Vexilla lineata**, A. Adams. *V. testa ovale, fusca, lineis albis, transversis ornata; spira brevi, obtusa; anfractu ultimo magno, superne rotundato, transversim striato; apertura elongato-ovata, postice canaliculata, antice emarginata, intus cine-rea; labio explanato; columella arcuata, simplice; labro planulato, intus dentato-lirato, margine crenulato.


23. **Trigonella nobilis**, A. Adams. *T. testa ovata, aequivalvi, inaequilaterali, alba, transversim striata; latere antico laevi, latoire, rotundato, obsoleto anguloso, superne vix alato, producto; latere postico breviore, producto, truncato, angustato, aperto, radiatim sulcato; foramine ovali, marginibus incassatis, subreflexis; margine ventrali arcuato, regulari, simplice.


24. **Stylina fulvescens**, A. Adams. *S. testa ovato-acuminata, vix rimata, obliqua, pellucida, fulvescente, apice attenuata, stylifera; suturis impressis; anfractu ultimo rotundato; apertura ovata, antice subproducta; labro arcuato, margin vix incassato, antice subreflexo.

Hab. Island of Labuan; found in a Star-fish. Mus. Gruner and Cuming.

25. **Stomatella Baconi**, A. Adams. *S. testa ovali-orbiculata, substratinata, spira producta, apice acuto; anfractibus superne concavis; sordide alba, rufo-fusco variegata, transversim spirali sulcata, interstitiis longitudinaliter striatis; apertura
aperta, intus sulcata; labio subincrassato, albo, reflexo, concentric striato.
In form this species somewhat resembles S. papyracea, but it is smaller, of a more solid texture, and with colouring and sculpture entirely of a different character.

26. Stomatella Cumingii, A. Adams. S. testa auriformi, imperforata; spira depressa, lutescenti-albida, transversim spiraliter costata, costis elevatis, subequalibus, asperis, rufo-fusco articulatis; interstitiis lamellis subimbricatis, tenuibus, transversim ornatis; apertura patula, intus sulcosa; labio subreflexo.
Hab. ——? Mus. Cuming.
This is a large and elegant species, with a peculiar yellow, glistening tinge in the intervals between the spiral rugose ribs; the aperture is very transverse, and the inner lip is reflexed on the columella.

27. Stomatella Arabica, A. Adams. S. testa ovato-globosa, subturbinata, umbilicata, alba, rubro concinna variegata; spira producta; anfractibus liratis, ultimo ventricoso, convesso, transversim striato; apertura aperta, subovali; columella obliqua, regione umbilicali impressa; labio albo, tenui, reflexo, umbilicum partim obtegente.
This is a small species with the whorls rounded and simply striated. The colour and markings vary; the ground, however, is usually white with large irregular reddish blotches.

28. Stomatella calliostoma, A. Adams. S. testa ovato-subturbinata, rimata, spira depressa, rufo-fusco variegata, transversim lirata, liris elevatis, inaequalibus; apertura transversim ovali, intus rosea, iridescente; labio tenui, acuto, arcuato.
The interior of the aperture in this species is of a beautiful iridescent reddish or violet tint; externally, the whorls are spirally lirate, and of a reddish brown, variegated with markings of a darker colour.

29. Stomatia bicarinata, A. Adams. S. testa turbinata, umbilicata; spira producta, lutescente, maculis viridibus radiatim dispositis, ornata; anfractibus planiusculis, superne angulatis, ultimo carinis duabus elevatis, instructo, transversim spiraler striato; apertura mediocri, subtetragonali; columella recta, antice vix callosa.
This is a very pretty species with a deep umbilicus, and straight columella; the whorls are furnished with prominent keels, of which there are two on the last whorl; the shell is ornamented with green blotches.
July 12, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. On some Fishes allied to Gymnotus.
   By Alfred R. Wallace.

My object is to call the attention of the Society to some curious fishes allied to the Electrical Eel, which are abundant in the fresh waters of South America. They present many modifications of form, and will probably constitute a distinct family or subfamily. They may be characterized as fishes of an elongate form, very slender posteriorly; without dorsal or ventral fins, but with a very long anal fin. The intestines are situated immediately behind the head, and occupy a very small portion of the entire length of the fish. The teeth are very small, or altogether wanting. The air-bladder is in some species very long, in others almost obsolete; and the scales are very minute, ovate, concentrically striate, and often so imbedded in mucus as to be invisible till scraped off. The gill-opening is generally very small, and the eyes and nostrils minute.

There seems to be sufficient variety of form and structure to justify the establishment of five genera.

1. The true Gymnotus (of which the Gymnotus electricus appears to be the only well-known species), characterized by the anal fin reaching the extremity of the tail, which is flattened; by the air-bladder extending almost the entire length, in a cavity beneath the vertebrae; and by having a single row of short acute teeth in each jaw.

2. The genus Carapus, to which five of my species belong. These have the tail cylindrical and pointed, extending beyond the anal fin; a band of minute teeth in each jaw; and a double air-bladder, generally of very small size. One of my species appears to be identical with Carapus brachyurus of Bloch.

3. A form, of which I have but one representative, which has a deep body, a rather large mouth, but no teeth, and a small round single air-bladder.

4. Two long-jawed species, which have a very small mouth, no teeth, and no air-bladder. The larger of these is probably the Gymnotus rostratus of Schneider.

5. The genus Apteronotus, which differs from all the preceding in having a small, but perfectly-formed and rayed caudal fin, a rather large mouth, with the lower jaw shutting within the upper, and the teeth rather acute and prominent in a row on the sides of the jaws only. My representative of this genus appears to be quite distinct from Apteronotus albifrons of Lacépède.

These fishes were all found near the sources of the Rio Negro and
Orinoco, one of the most central positions in South America. They are most abundant in the smaller streams, and feed on minute aquatic insects. None of them, except the common Gymnotus, have any electrical properties. They are all eaten, though, owing to the number of forked or branched bones in every part of their bodies, they are not much esteemed.

The situation of the vent in these fishes is very peculiar, the intestine passing forwards from the stomach, instead of backwards, as is usually the case, so that they have the anus situated under the throat; in one of the long-snouted species it is actually considerably in front of the eyes, a peculiarity which I believe does not occur in any other vertebrated animal.

This fish, too, is remarkable for the very singular manner in which it is said to feed. It is asserted that it lives principally on ants and white ants, which it obtains by laying its tail out upon land. The ants, attracted by its mucous covering, crawl thickly upon it, when the fish dives down and leaves the ants struggling upon the surface of the water, where it is enabled to eat them at its leisure. The Indians assert that, when fishing at night, they often see this take place.

To give some idea of the distribution of fishes in the rivers of South America, I may mention, that of 205 species which I found in the Río Negro,—

43 were spinous-finned fishes, principally Percidae and Labridae;
54 were Siluridae;
80 were Salmonidae;
24 were other soft-finned fishes, of the families Esocidae, Anguillidae and Cyprinidae; and
4 were Ray fish (cartilaginous fishes).

2. Descriptions d'Ancyles nouveaux, de la Collection de M. Cuming, précédée d'une courte notice sur le genre Ancylus, et d'un Catalogue complet des espèces qui le composent. Par M. J. R. Bourguignat.

(Mollusca, Pl. XXV.)

M. Cuming, sur la recommandation du savant conchyliologue français, M. Deshayes, ayant bien voulu nous communiquer sa collection d'Ancyles, nous nous sommes empressés de l'examiner; et comme nous y avons reconnu plusieurs espèces inconnues jusqu'à ce jour, nous croyons devoir en donner les descriptions.

Nous les ferons précéder de quelques courtes notes sur le genre même auquel ces coquilles nouvelles appartiennent, et d'une liste de toutes les espèces jusqu'ici connues.

Mais tout d'abord, n'oublions pas de remercier M. Cuming de la communication si bienveillante qu'il a bien voulu nous faire; l'extrême bonne grâce qu'il y a mis ne nous a point surpris; nous n'attendions pas moins de lui, tous les conchyliologues savent qu'il joint
1 - 9  Ancylus Cumingianus
10 - 17  id  Drouetianus
18 - 23  id  Baconii
26 - 33  id  Saulcyanus
aux connaissances du savant, le caractère distingué du véritable "gentleman."

§ 1. Historique du genre Ancylus.

Le genre Ancylus a été créé par Étienne Louis Geoffroy en 1767, dans son petit traité des coquilles de Paris; et adopté presque immédiatement, en 1774, par Othon Frédéric Müller, dans son excellent travail, 'Vermium terr. et fluv. Historia,' vol. ii. p. 199.

Le mot Ancylus est tiré du grec, ἀγκύλος, uncus, crochu, et ne vient point, ainsi que plusieurs naturalistes le pensent, du vocable latin, Ancila, bouclier.

Cependant, c'est Martin Lister qui, le premier (en 1678), fit connaître sous le nom de Patella fluviatilis, une espèce de ce genre; espèce qu'il reproduisit en 1685 sous la même désignation dans les descriptions de son 'Historia sive Synopsis Meth. Conch.,' no. 39. p. 56.

Depuis cet auteur jusqu'à nos jours les diverses espèces d'Ancylus ont été rangées tantôt dans un genre, tantôt dans un autre.

Ainsi : Gaultier, 1742; Linnaeus, 1746, 1758, 1761 et 1767, dans les principales éditions de ses ouvrages; Grinnell, 1757; Pennant, 1777; Da Costa, 1778; Schröter, 1779; Gmelin, 1788; Bruguière, 1789; Poiret, 1801; Montagu, 1803; Schlotheim, 1815; Turton, 1819; Dillwyn, 1823; Wood, 1828, &c., ont placés les Ancyles dans le genre Patella.

Klein, 1753, dans le genre Calyptra.
Des Alliers d'Argenville, 1742; Bouchoz, 1771, dans le genre Lepas.
Denis de Montfort, 1810, dans le genre Helcion.
Oken, 1816, dans celui des Bulimus.
Fleming, 1828, dans les Crepidula.
Gray, 1840, dans les genres Ancylus et Velletia.

Mais le genre Ancylus, créé par Geoffroy en 1767, adopté par Müller en 1774, a été successivement employé par Draparnaud, 1801 et 1805; Férussac, 1807; Millet, 1813; Desmarest, 1814; Brand, 1815; C. Pfeiffer, 1821; Lamarck, Nilsson et Férussac, 1822; Deshayes, 1824; De la Pylaie, Risso, Sowerby, 1826; Lyell, 1827; Sander-Rang, 1829; Menke, Zieten, 1830; Michaud, 1831, &c. &c., enfin par tous les conchyliologues de nos jours.

Le genre Ancylus a été également balloté de famille en famille:—
De Roissy, 1805, place ce genre dans la famille des Patelles.
Duméril, 1806, dans celle des Dermobranches.
Lamarck, 1822, dans celle des Calyptraciens.
Férussac, 1819 et 1822; Menke, 1828; Deshayes, 1830, dans celle des Lymnéides.
Hartmann, 1821, dans celle des Pneumonés Limnophiles.
De Blainville, 1825, dans celles des Otidés et des Subaplysiens.
Latreille, 1825, dans celle des Limnochlidés.
Risso, 1826, dans celle des Auriculées.
Fleming, 1828, dans celle des Pulmoniferes aquatiques.
Sander-Rang, 1829, dans celle des Semiphylidiens.
Turton, 1801, dans celle des Patellides.
Gray, 1840, dans celle des Limnæaæ.
Enfin, M. Moquin-Tandon, 1852, dans celle des Lymnéens.
Trois conchyliologues ont même créé pour ce genre une famille spéciale:—
Menke, 1830, la famille des Ancyloæa;
Pfitzinger, 1833, celle des Ancyloïdeæa;
Mauduyt, 1839, celle des Ancylienæa;
Familles qui ont été successivement adoptées par M. l’abbé Dupuy, 1847, 1851, dans son grand ouvrage sur les Mollusques de la France.
Quant à l’ordre dans lequel les Ancyles ont été rangé par les conchyliologues, ce genre a encore été balloté de l’ordre des Inférobanches, Hypobanches, Dermobanches, Pectinobanches, Scutibanches, Pleurobanches, Cyclobanches, Monopleurobanches, Pneumobanches, Pulmobanches, &c., dans ceux des Adelopneumonés, Pulmonés, Pulmonifères aquatiques, &c. &c.
Enfin, M. Moquin-Tandon, 1852, a créé pour ce genre l’ordre des Gastéropodes Amphibies.
Tel est aussi succinctement que possible l’historique du genre Ancylus.

§ 2. Description du Genre.

Animal gastéropode amphibie, plus ou moins conique en dessus, aplati en dessous, marchant sur un pied large, de forme ovaleaire, profondément séparé de l’enveloppe palléale qui est ordinairement mince, de couleur uniforme ou maculée, et qui recouvre tout l’animal, comme une immense calotte, excepté en avant. Tête grosse et courte, subquadrangulaire, portant latéralement deux tentacules courts, contractiles, tronqués au sommet, et offrant au côté externe à la partie inférieure une sorte de dilatation mince et arrondie. Yeux sessiles, médiocres et arrondis, placés à la base interne et antérieure des tentacules. Bouche ordinairement étroite, située en dessous, au milieu du mufle, et possédant trois machoires ; une transversale et deux verticales. Poche pulmobranchiale, ainsi que l’orifice anal et génital, située soit à gauche (Ancylastrum), soit à droite (Velletia).

Coquille recouvrant entièrement l’animal, épidermée, muscoso-cornée ou crétaçée, transparente ou opaque, lisse ou striée, de forme Patelloïde ou Pyléside, plus ou moins spirale, présentant un sommet mousse, obtus ou aigu, &c., plus ou moins postérieur, et plus ou moins incliné à droite (Ancylastrum), ou à gauche (Velletia). Impressions musculaires très-peu visibles, étroites, linéaires, situées un peu au dessus du péristome.

§ 3. Division du genre Ancylus en deux sections, Ancylastrum et Velletia.

Il existe plusieurs systèmes pour le sectionnement des espèces du genre Ancylus.
Beck notamment a séparé les Ancyles en deux groupes ; le premier auquel il conserve le nom d’Ancylus, le second qu’il nomme Acroloxus.
Nous ne pouvons adopter le système de Beck, car il n'a aucune valeur scientifique.

Gray a été plus loin, au lieu de deux sections, il divise les espèces du genre Ancylus en deux genres distincts. D'abord le genre Ancylus, ensuite le genre Velletia.

L'espèce type pour laquelle cet auteur a créé ce genre nouveau, est l'Ancylus lacustris de Müller.

Cette division a quelque chose de bon, puisqu'elle se fonde sur un caractère réel : la position de la cavité pulmobranchiale. Mais nous ne pensons pas qu'il faille adopter le nouveau genre d'une manière tout-à-fait absolue, car il faut remarquer que le caractère sur lequel Gray l'a appuyé, est isolé, et que sauf cette différence, il n'y en a pas d'autres suffisantes pour autoriser la séparation complète du lacustris, d'avec les autres espèces d'Ancylus.

Nous ne conserverons donc l'appellation Velletia, que comme une simple indication d'une subdivision du genre Ancylus.

Pour nous, nous fondant sur cette loi que nous avons reconnu constante, et qui a pour base la conformation de l'animal et celle de son test ; loi que voici : — La direction du sommet correspond toujours, mais en sens inverse, avec la position dextre ou sénestre de la poche pulmobranchiale— nous établissons deux groupes d'Ancylus dont voici les caractères :

Groupe 1. Ancylastrum. Animal sénestre ; coquille ayant toujours le sommet plus ou moins incliné à droite.


Après avoir établi les caractères généraux des groupes, disons maintenant un mot sur ceux des espèces.

Voici, selon nous, les caractères essentiels sur lesquelles il faut se baser pour créer une bonne espèce dans le genre Ancylus.

Le premier est le plus essentiel, parce qu'il correspond toujours à la conformation anatomique de l'animal, est la position dextre ou sénestre du sommet. Maintenant, ce sommet, quelque soit sa position, peut présenter des formes différentes de contour, de courbure, d'obliquité, &c.

Un second caractère très-important, mais cependant inférieur, est le mode d'après lequel le test prend sa croissance ; — caractère au moyen du quel on peut établir pour les Ancylus les groupes suivants :—

1. Les espèces à accroissement rectiligne, c'est-à-dire les Ancylus dont les parties de la coquille, placées entre la pointe du sommet et le contour antérieur du péristome, vont en s'évasant sans prendre une apparence concave ou convexe.

2. Les espèces à accroissement convexe.

3. Les espèces à accroissement complexe, c'est-à-dire, celles dont la croissance suit deux marches différentes et successives, soit qu'elle apparaisse : 1. convexe et ensuite rectiligne ; 2. convexe et enfin convexe.
Nous allons indiquer maintenant un troisième caractère, qui paraît avoir échappé jusqu'à ce jour à la sagacité des auteurs: il consiste dans une dépression souvent très-apparente, que l'on trouve constamment au sommet du test des Ancyles, et que nous appellerons dépression apicale.

La dépression dont il s'agit se présente, selon les espèces, sous deux formes, la forme elliptique et la forme arrondie; elle peut occuper en outre une des quatre positions suivantes:—

1. Elle peut se trouver à l'extrémité du sommet, et regarder la base du bord postérieur du péristome; alors, et en raison même de cette position, elle se rapproche toujours de la forme arrondie.

2. Elle peut être placée un peu au-dessus de la pointe du sommet, et regarder plus ou moins obliquement le ciel, suivant que le sommet offre une spire plus ou moins prononcée.

3. Placée dans la position qui précède, la dépression apicale peut se rencontrer sur le côté droit du sommet.

4. Ou bien elle peut se trouver sur le côté gauche du sommet.

Dans ces trois dernières positions la dépression apicale se présente ordinairement sous la forme elliptique.

N'oublions pas, enfin, un indice caractéristique non moins excellent qu'on aurait tort de laisser de côté; il s'agit des mœurs et du mode d'habitation des individus; s'il n'est pas fondamental, il est du moins grave et important.

Ce n'est qu'après un examen sérieux de ces caractères de premier ordre, que l'observateur pourra s'occuper des formes d'ouverture, de stries, de l'épaisseur, de la couleur du test, &c.—accidents variables, et, selon nous, secondaires.

§ 5. Distribution géographique des Ancyles.


Les espèces d'Ancyles de la section des Ancylastrum, habitent dans ces cinq parties du monde que nous venons de citer.

Celles de la section des Velletia n'ont été recueillies jusqu'à présent que dans notre continent Européen.

Nous allons donner un simple catalogue des espèces du genre Ancyle par ordre alphabétique, tout en les divisant en Ancylastrum et en Velletia.

À chacune de ces espèces que nous allons énumérer, nous n'indiquerons que les synonymies les plus indispensables, et les localités précises où chacune d'elles a été rencontrée jusqu'à ce jour.

Ensuite, nous terminerons cette notice par des descriptions détaillées des espèces nouvelles provenant de la collection de M. Cuming.


Groupe 1. Ancylastrum.


Hab. l'île de Madère.
   Hab. le lac Baril, près de Bahia (Brésil).

   Hab. les mares de la Guadeloupe.

   Hab. la terre de Natal, aux environs de Piéter Mauritzburg (Afrique).

   Hab. le Passaic, près de Patterson, dans les États-Unis.

   Hab. les environs de Valparaiso (Amérique du Sud).

   Espèce fossile des sables noirs des environs d'Anvers, en Belgique.

   Ancile concentrique, Chenu, Lec. élém. sur l'hist. nat., Conch. p. 145. fig. 845, 1847.
   Hab. les environs de Montevideo, dans la république de l'Uruguay (Amérique du Sud).

   Hab. en Europe, les îles de Corse, de Sicile, de Sardaigne, les Baléares ; en Afrique, l'Algérie.

    Hab. l'Orégon, dans les États-Unis.

    Hab. les marais qui communiquent avec la rivière de Guayaquil, non loin de la ville du même nom, dans la république de l'Equateur (Amérique du Sud).

* Non Ancylus compressus, Parreyss, qui est une espèce différente.
† Non Ancylus culicoïdes, Moricand, qui est une espèce différente.

No. CCLIII.—Proceedings of the Zoological Society.
*Hab.* le département de l'Aube (France).


Ancylus depressus †, Keferstein, Die Naturg. des Erdkorp. &c. p. 418. no. 2, 1834.

Espèce fossile du calcaire lacustre d’Ulm, en Bavière.


Localité inconnue; probablement du continent européen.


*Hab.* l’Ohio, dans les États-Unis.


Velletia filosus, Hald., loc. sup. cit. pl. 1. fig. 9, 1844.

*Hab.* la rivière de Black Warrior, au sud des sources de Blount, en Alabama (Amérique du Nord).


Cet Ancyle a été découvert pour la première fois dans un petit ruisseau, près d’Andover, ville de l’État de Massachusetts. Depuis on l’a encore recueilli dans un étang près de Harvard, ainsi qu’aux environs de Mansfield, de Stratford, de Norwich, &c., dans les États-Unis.


* Ancylus deperditus ‡, Ziegler ; Parreyss ; Küster, in litt. et sched.


* Non Ancylus deperditus de Ziegler, Parreyss, Küster et Dupuy, qui est l'Ancylus gibbosus ; ni Ancylus deperditus de Keferstein, Ale. d’Orbigny, qui est l’Ancylus Orbignyanus.
† Non Ancylus depressus de Haldeman, qui est l’Ancylus Haldemani ; ni Ancylus depressus de Deshayes, qui est une espèce différente.
‡ Non Ancylus deperditus de Desmarest, Lommel, qui est une espèce différente ; ni Ancylus deperditus de Ray et Drouët, qui est une espèce à rapporter à l’Ancylus simplex ; ni Ancylus deperditus de Zieten, Keferstein, qui est l’Ancylus Orbignyanus.
§ Non Ancylus spina-rosea de Draparanda, Féruussac, &c., qui est une espèce de Crustacé du genre Cypris.
Ancylus deperditus, Dupuy, Hist. nat. des Moll. &c. de la France, fasc. 5. p. 494. no. 4. tab. 26. no. 4, 1851.
Ancylus recurvus, Parreyss (teste Dupuy, loc. sup. cit.).
Ancylus oblongus *, De Charpentier, in litt. et sched.
Ancylus fluviatilis, Auctorum pler.

Hab. en Allemagne, la Carniole; en France, les Pyrénées, les départements de l’Aube, de l’Oise, de la Meuse, &c.; en Afrique, l’Algérie.

Hab. la rivière de Holston, aux environs de Washington, dans les États-Unis.

Hab. les îles de Cuba et de Haïti, dans les Antilles.

Hab. l’île de Saint-Vincent, dans les Antilles.

Ancylus capuloidea ‡, Jan. in sched. et Porro, Malacol. Comasca, &c. p. 87. no. 1. tab. 1. fig. 7, 1838.
Ancylus fluviatlilis, var. B. capuloidea, Gassies, Quelq. faits d’emb. des Ancyles, &c. in Act. de la Soc. Linn. de Bordeaux, tom. vii. 2 série, p. 370. fig. 14, 15, 1852.
Hab. en Italie, les eaux de la Lombardie, de la Sicile, &c.; en France, les Pyrénées, les environs d’Agen; en Espagne, le Rio del Norte.

Espèce fossile des environs de Stavnitza, en Russie.

Hab. le Portugal.

* Non Ancylus oblongus (Crepidula) de Fleming, ni Patella oblonga de Lightfoot, et Ancylus oblongus de Parreyss, qui sont des espèces qu’il faut rapporter à l’Ancylus lacustris.
† Non Ancylus depressus de Deshayes, qui est une espèce fossile de France; ni Ancylus depressus de Keferstein, qui est l’Ancylus deperditus de Desmarest.
‡ Nomen pessime formatum, nec adoptandum.
Ancylus Bahiensis, Stef. Moricand, olim in litt. et in sched.
&c. in Mém. de la Soc. de Phys. et d'Hist. nat. de Genève, tom. viii.
p. 28. no. 46, 1836.
Ancylus Moricandi, Alc. d'Orb., Voy. dans l'Amér. mérid. &c.
Moll. tom. v. 3 partie, p. 355, 1836.
Ancylus naricula, Spix (teste Beck, Ind. Moll. &c. p. 124. no. 2,
1837).
Hab. le lac Baril, près de Bahia (Brésil), dans les ruisseaux qui
rejoignent le Paraña, au-dessus de Corrientes, dans la confédération
Argentine.

26. Ancylus obliquus †, Broderip, Charact. of New Spec. of
Ancylus radiatus ‡, Alc. d'Orb., Syn. terr. et fluv. Moll. &c. in
tom. v. 3 partie, p. 356, 1836.
Ancylus radiatus, Alc. d'Orb., Voy. dans l'Amér. mérid., Atlas,
Moll. pl. 42. fig. 18–21, 1847.
Hab. le Chili, le Pérou.

27. Ancylus obscurus, Haldeman, Monogr. Freshwater Univ.
Moll. &c. p. 9. pl. 1. fig. 5, Jan. 1844.
Hab. le Nolachuchy, au-dessus de Greenville ; le Tennessee, dans
les États-Unis ; enfin, l'île de la Jamaïque, d'après Adams.

et fluv. du Portugal, p. 88. no. 5. pl. 8. fig. 5, 1845.
Hab. le Portugal.

29. Ancylus Orbignyanus, Bourguignat, Cat. des esp. du genre
Ancylus, in Journ. de Conch. no. 2. p. 194, 1853.
Ancylus deperditus || et deperdites, Zieten, Pét. du Wurtemb. liv. 7.
p. 49. pl. 37. fig. 4. a. b. c. et 5. a. b. c, 1830 ; et même ouvrage, in
Index alphab. p. 98, 1830.

30. Ancylus parallellus, Haldeman, Monogr. Freshwater Univ.
Moll. &c. 1841.

* Non Ancylus culicoides de d'Orbigny, qui est une espèce différente.
† Non Ancylus obliquus d'Adams, qui est l'Ancylus Petitianus.
‡ Non Ancylus radiatus de Guilding, Deshayes, &c., qui est une espèce dif-
férente.
§ Non Ancylus obtusus de Charpentier, qui est une espèce qu'il faut rapporter
t à l'Ancylus simplex.
|| Non Ancylus deperditus de Ziegler, Parreys, Küster, Dupuy, &c., qui est
l'Ancylus gibbosus ; ni Ancylus deperditus de Desmaest, qui est une espèce dif-
férente ; ni Ancylus deperditus de Ray et Drouët, qui est l'Ancylus simplex.

*Ancyclus parallelus*, Hald., Monogr. Freshwater Univ. Moll. no. 7. p. 2. pl. 1. fig. 6, 1844.

Hab. les États-Unis, dans les États de Vermont et de Massachusetts.


Hab. la Jamaïque.


Hab. l’île de Scio, dans la Méditerranée.


Hab. les marais de l’île de Pinos, l’île de Cuba, et celle de Haïti, dans les Antilles.


Variété B.


Hab. les îles de Saint-Vincent et de Cuba.

La variété B. habite le pays de Peten, au sud du Yucatan, dans le Guatémala.


Hab. l’Algérie.


*Ancyclus fluviatilis, var. radiatus*, Auctorum pler.

Hab. la France, la Suisse.


Hab. dans presque toutes les contrées des États-Unis, dans l’Amérique du Nord.

* Non, *Ancyclus rivularis* de Say, Férussac, Jay, De Kay, &c., qui est une espèce différente.

† Non *Ancyclus obliquus* de Broderip, H. Müller, qui est une espèce différente.

‡ Non *Ancyclus pileolus* de Beck, qui est une espèce différente.

§ Non *Ancyclus radiatus* d’Alcide d’Orbigny, qui est *Ancyclus obliquus* de Broderip.

|| Non *Ancyclus rivularis* de Gould, qui est *Ancyclus parallelus*. 
38. Ancylus simplex (Lepas), Buc'hoz.

* Patella fluviatilis, fusca, vertice mucronato, inflexoque, Lister, Hist. Anim. Anglæ, p. 151. t. 2. pl. 3. no. 32, 1678.

* Ancylus fluviatilis (pars), Draparnaud, Tabl. des Moll. p.47. no. 2, 1801.
* Patella cornea (pars), Poiret, Coq. fluv. de Paris, p. 101. no. 2, 1801.
* Patella fluviatilis, Montagu, Test. Brit. part 2. p. 484. no. 6, 1803.

Ancylus meridionalis, Beck, Mus. Paris. in specim.
* Ancylus fluviatilis (pars), Phil. Enum. Moll. Sicilie, tom. i. p. 120, 1836, tom. ii. p. 93, 1844; et Auctorum Galliae pler.

* Ancylus obtusus †, de Charpentier, in specim. ab illo missis.
* Ancylus deperditus (pars), Ray et Drouet, Cat. des Moll. de la champ. mérid. p. 27. no. 116, 1851.

VARIÉTÉ B.


Ancylus striatus (altera pars), Arth. Morelet, Descript. des Moll. &c. du Portugal, p. 86. no. 2, 1845.

Ancylus fluviatilis (pars), Philippi, et Auct. Galliae pler. in specim. ab illis missis.

Sous-variété B.


Ancylus compressus ‡, Parreyss, in litt. et in J. Jay, Cat. of Shells, p. 272. no. 6376, 1850.

Sous-variété C.

Ancylus luteolus, Parreyss, in litt., et in J. Jay, Cat. of Shells, &c. p. 272. no. 6382, 1850.

Ancylus striatus §, Dupuy, Hist. nat. des Moll. &c. fasc. 5. p. 495. no. 5. tab. 26. fig. 5, 1851.

* Non Ancylus pileolus de Férussac, qui est une espèce différente.
† Non Ancylus obtusus de Morelet, qui est une espèce différente.
‡ Non Ancylus compressus de Nyst, qui est une espèce différente.
§ Non Ancylus striatus de Webb et Berthelot, qui est une espèce différente.
Sous-variété D.

*Ancylus sinuosus*, Brard, Hist. des Coq. &c. de Paris, p. 201. no. 2. pl. 7. fig. 4, 1815.


Variété C.

*Ancylus albus*, Hentz, in specim. ab illo missis.


Variété D.

*Calyptra patella fluviatilis*, Klein, Tentamen Meth. Ostrac. &c. p. 118. § 290, 292. no. 3, 1753.


*Ancylus fluviatilis* (altera pars), Draparnaud, Tabl. des Moll. p. 47. no. 2, 1801.

*Patella cornea* (altera pars), Poiret, Coq. fluv. &c. de Paris, p. 101. no. 2, 1801.

*Patella lacustris*, Donovan, Brit. Shells, tab. 147. fig. 2, 1802.

*Ancylus fluviatilis* (altera pars), Draparnaud, Hist. des Moll. p. 48. no. 2. pl. 11. fig. 23, 24, 1805.


Variété E.

*Ancylus Frayssianus*, Dupuy, Hist. nat. des Moll. &c. fasc. 5. p. 496. no. 6. tab. 26. fig. 6, 1851.

Variété F.


*Ancylorum montani et fluviatilis*, variétas, Auctor. pler.

L'*Ancylus simplex* varie à l'infini de couleurs, de grosseur, de stries, d'opacité, &c., selon qu'il habite les grands fleuves (Anc. fluviatilis de Müller), les petits ruisseaux (Anc. simplex, costatus, Fabreii, &c.), ou enfin les torrents des montagnes (Anc. rupicola, montanus, &c.).

Cette espèce se rencontre dans toute l'Europe, ainsi que dans les régions septentrionales de l'Afrique.

À l'état fossile, on connaît cet *Ancyle* de diverses localités de France et d'Angleterre.

* Non *Ancylus lacustris* (*Patella*) de Linnaeus, Müller, ni *Velletia lacustris* de Gray, qui sont des espèces différentes.
   *Hab.* les îles Canaries, le Portugal et l'Espagne.

40. Ancylus strictus, Morelet, Descript. des Moll. du Portugal, p. 88. no. 4. pl. 8. fig. 4, 1845.
   *Hab.* le Portugal et la France.

   *Hab.* les marais de la Sicile.

42. Ancylus tardus, Say, Disseminator. Mrs. Say's reprint, p. 26, 1830.
   *Hab.* les États-Unis, dans l'Amérique du Nord.

43. Ancylus vitraceus, Morelet, Desc. des Moll. du Portugal, &c. p. 87. no. 3. pl. 8. fig. 3, 1845.
   *Hab.* l'Espagne et le Portugal.

**Groupe 2. VELLETTIA.**

   *Espèce fossile du calcaire d'eau douce de Kolosoruk et de Tuchorʻzic, en Bohême.*

   *Espèce fossile dans les silex meuliers coquilliers de la deuxième formation de Jouy, en France.*

46. Ancylus elegans, Sowerby, Min. Conch. vol. vi. p. 64. tab. 533, 1826.
   *Espèce fossile dans les terrains lacustres de l'île de Wight, en Angleterre ; et dans ceux de l'Auvergne, en France.*

47. Ancylus lacustris‡ (Patella), Linnaeus.
   *Patella, Linnaeus, Fauna Suecica, p. 369. no. 1292, 1746.*
   *Patella picolissima, Ginanni, Opere Posth. &c. tom. ii. p. 50. tab. 2. fig. 11, 1757.*
   *Patella lacustris, Linnaeus, Syst. Nat. ed.10. tom. i. p. 783. no. 672, 1758; ed. 12. vol. i. partie 2. p. 1260. no. 679, 1767; Fauna Suecica, p. 534. no. 2200, 1761.*
   *Ancylus lacustris, Müller, Verm. Hist. ii. p. 199. no. 385, 1774.*

* Non Ancylus striatus de Dupuy, qui n'est qu'une simple variété de l'Ancylus simplex.
† Non Ancylus depressus de Haldeman, qui est l'Ancylus Haldemanii; ni Ancylus depressus de Keferstein, qui est l'Ancylus deperditus de Desmarest.
‡ Non Ancylus lacustris (Patella) de Donovan, ni Ancylus lacustris (Crepidula) de Fleming, qui ne sont que des variétés de l'Ancylus simplex.


Cet Ancyle habite les lacs, les marais, les fossés, enfin tous les cours d’eaux tranquilles de presque toute l’Europe. On le rencontre également dans les petits ruisseaux de l’île de Madère.

À l’état fossile, Schlotheim, en Allemagne, John Morris, en Angleterre, l’ont indiqué dans plusieurs dépôts de terrains lacustres.

Nous l’avons également recueilli dans les couches d’eau douce des environs de Paris.


Fossile dans le calcaire lacustre de Rilly-la-Montagne, près de Reims (département de la Marne, en France).

49. **Ancylus Moquinianus**, Bourguignat, Cat. des espèces du genre Ancylus, in Journ. de Conch. p. 197. no. 52. pl. 6. fig. 9, 1853.

**Hab.** les petits ruisseaux des environs de Dijon et de Toulon, en France.

Tel est la liste † des espèces qui composent le genre Ancylus. Si, à toutes ces espèces, on ajoute celles que nous allons maintenant décrire et qui proviennent de la riche collection de M. Cuming, on aura en ce travail, non-seulement un résumé historique sur le genre, mais encore un catalogue complet de tous les Ancyles connus jusqu’à ce jour.

**Ancylus Baconii**, Bourguignat. (Pl. XXV. figs. 18–25.) Anc. testa antice recta vel paululum convexa, postice recta vel paululum concava; apice postico, obtusissimo, paululum dextrorsus dejecto; depressione apicali vix conspicua, in extremitate verticis sita. Testa parva, fragili, diaphana, laxissima, vel concentrica striatula; epidermide albido-virescente; apertura ovata.

Long. 3 mill., lat. 2, alt. 1.

Cette espèce a été recueillie par le Docteur Bacon dans le Bengale.

Collection Cuming.

L’Ancylus Baconii présente antérieurement et postérieurement

* Non Ancylus oblongus de Charpentier, qui est l’Ancylus gibbosus.
† À tous ces noms d’Ancyles il faut ajouter les suivants, que nous n’avons pu adopter, vu l’ignorance où nous sommes de la valeur de ces espèces:—Ancylus rotundatus, Férussac; Ancylus stagnalis, Férussac; Ancylus Hermanni, Férussac; Ancylus radiolatus, Küster; et Ancylus Nuttallii, Haldeman. En outre, il faut retrancher du genre Ancylus les espèces suivantes:—Lepas d’eau douce, D’Avila; Ancylus acutus, Bronn; Ancylus Gussonii, Costa; et enfin, Ancylus spina-rose de Draparnaud.
une croissance rectiligne ; mais quelquefois l’accroissement anté-rieure prend une forme un peu convexe, tandis que celle postérieur devient un peu concave. Le sommet de cet Ancyle est très-obtus, généralement émoussé et placé un peu sur le côté droit par rapport à la ligne médiane. La dépression apicale, qui est presque invisible, vu son extrême petitesse, se trouve placé à la partie postérieure du sommet. Le test de cette petite coquille est fragile, diaphane, ordinaire-ment lisse, mais quelquefois il offre quelques lignes concentriques, qui ne sont que des stries d’accroissement. Sa couleur est d’un blanc-verdâtre ; son ouverture est ovale.

Cette espèce possède un facies analogue à celui que présente plusieurs espèces de l’Amérique, parmi lesquelles nous citerons les Anc. Havanensis, rivularis, filosus, radiatilis, fuscus, crassus, tardus, obscurus, calcarius, Haldemanii, parallelus, et enfin diaphanus.

1. On distinguera l’Ancylus Havanensis de notre Ancylus Baconii, en ce que l’espèce de Pfeiffer offre une coquille plus grande, plus épaisse, toujours radicée, avec un sommet bien plus aigu, &c.

2. L’Ancylus rivularis est distinct de notre espèce, par son ouver-ture plus arrondie, par sa forme plus surbaissée, et surtout par son sommet qui est comme écrasé et dont la pointe est rejetée sur le côté droit.

3. L’Ancylus filosus s’en sépare, par son test plus élevé, et sur-tout par les nombreuses côtes qui rayonnent en tous sens du sommet au péristome de cette coquille, &c.

4. L’Ancylus radiatilis, par son ouverture plus arrondie, et ses nombreuses radiations qui orment son test, &c.

5. L’Ancylus fuscus, par sa plus grande taille, par sa couleur, par son épiderme qui dépasse son péristome, enfin par son sommet qui est plus central, &c.

6. L’Ancylus crassus, par son test plus élevé, par son sommet par-faitement dans le plan de la ligne médiane, et non placé sur le côté droit, comme dans le Baconii, &c.

7. L’Ancylus tardus, par son accroissement antérieur qui est bien plus convexe, par son sommet plus postérieur, et qui, de plus, est situé dans le plan de la ligne médiane, &c.

8. L’Ancylus obscurus, par sa taille plus grande, par sa couleur, par sa forme plus arrondie, surtout par son sommet plus aigu et non situé sur le côté droit de la ligne médiane, mais bien dans le plan de cette ligne, &c.

9. L’Ancylus calcarius, par son test plus grand, par sa croissance rectiligne, et surtout par son sommet bien plus postérieur, &c.

10. L’Ancylus Haldemanii, par sa coquille moins conique, plus grande, par sa couleur plus foncée, &c.

11. L’Ancylus parallelus, par son test bien plus allongé, par sa taille plus considérable, par son sommet moins placé à droite, &c.

12. L’Ancylus diaphanus, par son ouverture arrondie, par son som-met presque central, &c.

L'on pourrait encore comparer notre Ancylus Baconii à l’Ancylus compressus de Nyst ; mais cette dernière espèce est une coquille fossile de Belgique.
Ancylus Cumingianus, Bourguignat. (Pl. XXV. figs. 1–9.)
Anc. testa antice gibbos-convexa, postice concava; apice recurvo, contorto, ad marginem aperturae lateralem dextrorsus dejecto, ac duos anfractus prebente; anfractus depressionem apicalem convexitate penultimi obtegentibus. Testa parum dia-
phana, laevi vel striata, presertim ad aperturam; anfractus apicis saepissime rugoso-radiatis; epidermide supra cornea vel virescente, intus albida; apertura subangulato-rotundata.
Long. 6–7 mill., lat. 5–5 1/2, alt. 2 1/2–3.
Cette magnifique espèce, type des Ancyles de notre section des Ancylastrum, habite la terre de Van-Diemen. Nous nous empressons de la dédier au savant Mr. Cuming, en le priant de considérer cette dédicace comme une faible marque de notre reconnaissance.
L'Ancylus Cumingianus présente antérieurement un accroissement convexe, tandisque postérieurement cet accroissement est concave. Son sommet est tout-à-fait rejeté à droite à la partie postérieure du bord marginal de l'ouverture, dont il est séparé par un sillon assez profond, occasionné par l'évasement, en cette partie, du péristome; ce sommet possède un tour et demie à deux tours de spire gyrocalle; aussi cette disposition spirale du sommet empêche-t-elle de voir la dépression apicale.
Cette coquille peu épaisse, est un peu diaphane et d'une couleur cornée, tandisqu'intérieurement elle offre une teinte blanchâtre unifière.
Les deux premiers tours de spire de cet Ancyle sont le plus souvent ornés de rugosités longitudinales, qui finissent ordinairement par disparaître sur le dos de la coquille pour reparaître d'une manière plus sensible vers les bords marginaux de l'ouverture. Celle-ci est arrondie antérieurement, tandis que postérieurement elle présente un contour un peu rétréci, ce qui lui donne un aspect un peu anguleux.
L'Ancylus Cumingianus ne peut être confondu avec aucune autre espèce de ce genre. L'excessive déviation de son sommet, ses tours de spire gyrocalle, enfin le facies tout particulier que possède son mode de croissance et la forme de son ouverture, le sépare complètement de toutes les espèces d'Ancyles connus jusqu'à ce jour.
L'Ancyle de Cuming peut cependant, par la forme générale de son test, par son sommet, surtout par la dilatation horizontale du bord postérieur de son péristome, être facilement comparé au Latia neritoïdes de la Nouvelle Zélande, et servir d'espèce intermédiaire entre les genres Latia et Ancylus.
De même, par ses tours de spire gyrocalle, ce mollusque peut être aisément rapproché de certaines espèces du genre Lymnaea, surtout, si on le compare à quelques Lymnées fossiles des terrains lacustrés de Crimée, qui, par la brièveté de leur spire, l'évasement considérable de leur ouverture, la fragilité de leur test, offrent un facies analogue à celui que l'on remarque chez cette espèce.
Cet Ancyle est donc une preuve de plus pour montrer les rapports intimes que doivent avoir entre eux ces deux genres de mollusques fluviales, et si les profondes études anatomiques auxquelles s'est livré l'illustre professeur, M. Moquin-Tandon, sur l'anatomie des espèces
de ces deux genres, lui a démontré que sous le rapport de l’organisation intérieur de ces animaux, il y avait entr’eux de nombreuses identités ; la constatation des caractères de cet Ancyle nouveau vient confirmer l’opinion de ce célèbre naturaliste, en montrant que sous le rapport de la coquille, les mollusques des genres Ancylus et Lymnaea se tiennent de bien près.

Ancylus Drouetianus, Bourguignat. (Pl. XXV. figs. 10–17.)
Anc. testa antice paululum convexa, postice recta; apice minutissimo, acutissimo, coarctato, recurvo, adpressus, mediano, postico, seoppissime decollato; depressione apicali inconspicuo. Testa depressa, laevissima, nitente, diaphana, paululum radiato-undulata, prescretim ad aperturam; epidermide cornea; apertura ovato-rotundata; peristomate undulato.

Long. 6 mill., lat. 5, alt. 2–2½.
Nous ne connaissons pas l’habitat exact de ce mollusque ; mais, d’après la forme, l’apparence de cette espèce, cet Ancyle doit provenir de quelques provinces de l’Amérique du Nord. Nous le démons à notre ami, Henri Drouët, de Troyes.

Coquille antérieurement un peu convexe, postérieurement rectiligne. Son sommet est très-petit, aigu, rétrécis sur ses côtés, recourbé sur lui-même et accolé à la paroi postérieure du test ; sans cette position toute particulière il ne pourrait résister au moindre choc. Malgré tout, il est très-souvent fracturé. La dépression apicale est invisible, vu le repli du sommet sur lui-même.

Cette coquille est très-lisse, très-brillante, transparente, et de couleur corneée, elle présente une surface qui du sommet aux bords marginaux de l’ouverture se divise en une quinzaine de plans ou méplats triangulaires assez grands, qui vont en s’agrandissant au fur et à mesure qu’ils s’approchent du péristome. Lorsque l’arête, qui sépare deux de ces plans ou méplats, vient aboutir au péristome, celui-ci éprouve une petite dépression, ce qui lui donne une apparence un peu ondulée.

Cette singulière espèce appartient par l’ensemble de ses caractères au groupe des Ancylus crassus, radiatilis, riviculus, &c. Mais on la distinguera toujours à son test divisé en une foule de plans triangulaires, et surtout à son péristome ondulé.

On séparera également l’Ancyle de Drouët des Ancylus riparius et vitraceus, dont le test est aussi composé d’une multitude de méplats trigonals, en ce que ces espèces offrent un sommet et un mode d’accroissement tout différent.

Chez ces deux espèces, la dépression apicale est très-visible, tandis que chez notre Ancyle elle est presque imperceptible.

Ancylus Saulcyanus, Bourguignat. (Pl. XXV. fig. 26–33.) Anc. testa antice convexa, postice paululum concava; apice parcuro, postico, sat obtuso, dextrorsus dejecto, sape decorticato; depressione apicali rotundata, in verticis extremitate sita. Testa parva, fragili, cornea, concentrice striatula, ac argutissime radiatula, prescretim ad aperturam; apertura ovata.

Long. 4–4½ mill., lat. 3, alt. 2.
Cet Ancyle habite les petits ruisseaux des environs de Porto-Cabello, dans le Vénézuela (collection Cuming). Nous le dédiions à notre ami Félicien de Sauley.

Cette espèce offre antérieurement une croissance convexe, tandis que postérieurement cette croissance prend une forme un peu concave. Son sommet est petit, assez obtus, et fortement rejeté sur le côté droit. La dépression apicale est arrondie et placée à l'extrémité de la pointe du sommet.

Le test de l'Ancylus Saulecyanus est d'une taille petite, fragile, d'une couleur corneéee, et présente des stries d'accroissement assez bien marquées. Lorsqu'on l'examine au microscope, il paraît, de plus, radié avec la plus grande délicatesse. Son ouverture est ovale.

L'Ancyle de Sauley ne peut être confondu qu'avec les espèces suivantes: Ancylus Raymondii, Petitianus, obliquus, Charpentierianus, irroratus.

On distinguera—1. l'Ancylus Raymondii, de notre Ancylus Saulcyanus, par sa taille plus considérable, par son sommet plus aigu, moins rejeté sur le côté droit, enfin par sa dépression apicale qui au lieu d'être placée à l'extrémité du sommet comme dans le Saulcyanus, se trouve au contraire située un peu au dessus et du côté gauche.

2. l'Ancylus Petitianus, par son test bien plus grand, par sa taille plus élevée, surtout par son sommet qui est tellement rejeté à droite, que la pointe dérape le plan du bord marginal du péristome, caractère que l'on ne retrouve point dans le Saulcyanus.

3. l'Ancylus obliquus, par sa coquille plus grande, par son sommet plus aigu, plus élevé, moins rejeté à droite, par sa croissance antérieure bien plus convexe, &c.

4. l'Ancylus Charpentierianus, par sa forme plus déprimée, par son sommet plus aigu, par sa dépression apicale placée toute différemment, par son ouverture qui présente postérieurement un angle assez prononcé, surtout par son mode de croissance qui est tout autre que celui du Saulcyanus.

5. l'Ancylus irroratus, par son sommet plus obtus, moins rejeté à droite, enfin par son test constamment maculé de petits points noirs.

**EXPLICATION DE LA PLANCHE.**

Pl. XXV.

Fig. 1, 2, 3, 4. Ancylus Cumingianus:—grossi.
Fig. 5. Sommet de cet Ancyle:—considérablement grossi.
Fig. 6, 7, 8, 9. Ancylus Cumingianus:—de grandeur naturelle.
Fig. 10, 11, 12, 13. Ancylus Drouétianus:—grossi.
Fig. 14, 15, 16, 17. Id.:—de grandeur naturelle.
Fig. 18, 19, 20, 21. Ancylus Baconii:—grossi.
Fig. 22, 23, 24, 25. Id.:—de grandeur naturelle.
Fig. 26, 27, 28, 29. Ancylus Sauleyanus:—de grandeur naturelle.
Fig. 30, 31, 32, 33. Id.:—grossi.
3. On the Synonyms of Johnstonella Catharina, Gosse.
By J. E. Gray, Ph.D., F.R.S., V.P.Z.S.

Mr. Gosse, in his amusing and interesting work on the coast of Devonshire, describes as new to science an animal under the above name. I am sorry,—as I should much wish for the above name to have been permanent,—to have to observe that it appears to belong to the same genus as the animal described by Eschscholtz in the 'Isis' (1825), p. 736. t. 5. f. 5, under the name of Tomopterus onisciformis from the South Seas; and by MM. Quoy and Gaimard in the 'Voyage of the Astrolabe,' ii. p. 284. t. 21. f. 21, 24, under the name of Briarea Scolopendra from the coast of Spain. Hermannsen has proposed to change the latter name to Briarea: Harry Goodsir calls it Briareus: and Mr. R. Ball writes it Bryarea. Eschscholtz and Quoy and Gaimard regard it as a mollusk; the former author referring it to the order Heteropoda, and the latter to the Nudibranchiata.

Mr. Harry Goodsir, who found the animal abundant in the North Sea (Ann. and Mag. Nat. Hist. 1845, xvi. 163), observing the presence of "cilia fringing the bifurcated posteriors of the lateral extremity of its body," decided that it could not be a mollusk.

Menke (Zeitsch. für Malac. 1844, 21) proposes to remove the genus to the Annelides; more recent authors have considered it as a Crustacean.

Mr. Gosse at first sight thought it might be a Branchiopod Crustacean, but thinks it has more affinity to the Annelides (p. 348), and refers it to that class in the Systematic Index.

According to Eschscholtz and Quoy and Gaimard, the South Sea specimens are very much smaller than those found in the Mediterranean: thus, Tomopterus onisciformis and T. Scolopendra are most probably distinct species. Mr. Gosse's Johnstonella Catharina is, no doubt, a synonym of the latter, since Mr. R. Ball records that Bryarea Scolopendra has been taken in Dublin Bay by Dr. Corrigan (Proc. Brit. Assoc. 1849, p. 72).

The genus Johnstonella of Gosse, is therefore synonymous with Tomopterus, Eschsch. Isis, 1825.
Tomopterus, Menke, 1844.
Briarea, Quoy & Gaim. 1829.
Briarea, Herm.

4. Descriptions of New Species of Semele, Rhizochilus, Plotia and Tiara in the Cumingian Collection.
By Arthur Adams, F.L.S., etc., etc.

1. Semele Jovis, A. Adams. S. testa ovato-oblonga, subventricosa, rosea, umbonibus rubris, albo radiatis, concentrice lamellata, lamellis striatis, aequalibus, aequidistantibus, interstitiis longitudinaliter striatis; latere antico longiore, rotundato, postico breviore, flexuoso, subtruncato; intus rosea.
Hab. ———? Mus. Cuming.
2. Semele Gruner, A. Adams. *S. testa ovato-oblonga, crassa, convexiscula, albida, roseo radiata et maculis roseis varie picta; latere antico longiore, rotundato, postico breviore rotundato ad marginem ventralen flexuoso; concentrice plicata, plicis crassis, sulcosis, interstitiis lineis elevatis, longitudinalibus concinne ornatis; intus alba.*


3. Semele Jukesi, A. Adams. *S. testa orbiculari, compressiscula, albida, concentrice lamellosa, lamellis incrassatis, eleganterque crenulatis, ad latera productis, interstitiis elevatim striatis; latere antico rotundato, postico angulato, ad marginem ventralen flexuoso; intus lutea.*

*Hab. Torres Straits (Mr. Jukes). Mus. Cuming.*

4. Semele sponsa, A. Adams. *S. testa orbiculari, subventricosa, solida, alba, equilaterali, concentrice lamellata, lamellis transversis, aequalibus, equidistantibus, tenuibus, marginibus exquisite crenulatis, interstitiis crebrerimae striatis; latere antico rotundato, postico subangulato, ad marginem ventralen flexuoso; intus alba.*


5. Semele Sinensis, A. Adams. *S. testa orbiculari, equilaterali, compressiscula, albida, epidermide subfusca obtecta, longitudinaliter radiatim costellata, costellis longitudinaliter sulcatis, lineis transversis, concentricis, filiformibus decussata; umbonibus rosaceis, laevissimis; latere antico rotundato, postico nudo, nec costellato, vix truncato, ad marginem ventralen subflexuoso; intus alba.*

*Hab. China.*

6. Semele amoena, A. Adams. *S. testa oblonga, ovali, subventricosa, tenella, albida, concentrice corrugatim striata, radiatim tenuc striata, striis confertis; latere antico rotundato, postico breviore, subflexuoso; intus alba.*

*Hab. — ?*  

7. Semele luteola, A. Adams. *S. testa suborbiculari, subequilaterali, ventricosa, lutescente, tenuissime concentrice corrugatim striata, striis elevatis subinterruptis; interstitiis lineis elevatis longitudinalibus ornatis; radiatim striata, striis postice evanidis; latere antico rotundato, postico ad marginem ventralen vix flexuoso; intus lutea.*

*Hab. — ?*  

8. Semele modesta, A. Adams. *S. testa orbiculato-trigonali, compressa, crassa, equilaterali, sordide alba, roseo obsolete radiatim fasciata, umbonibus luteolis; antice rotundata, postice vix flexuosa, concentrice plicata, plicis crassis, subdistantibus, aequalibus, interstitiis elevatim striatis; intus albo-lutescente, margine roseo radiato.*


15. Semele casta, A. Adams. *S. testa oblongo-ovali, transversa, inaequilaterali, alba, apicibus luteis, radiatim striae, concentrice transversim lamellosa, lamellis tenuibus, plicatis, marginibus pulcherrime crenulatis, ad latera prominentioribus; latere antico longiore, postico breviore, rotundato; intus alba, in medio lutescente. Hab. Moreton Bay, Australia (Mr. Strange).
16. Semele compta, A. Adams. S. testa orbiculari, compressa, equilaterali, albida, luteo-fusco obscure radiata, sublevi, lineis transversis et longitudinalibus decussata; latere antico rotundato, postico subangulato; intus alba, medio lutescente.

_Hab._ —? Mus. Cuming.

17. Semele amabilis, A. Adams. S. testa ovato-oblonga, compressa, alba, transversim concentricia lamellosa, lamellis elevatis, tenuibus, plicatis, marginibusque crenulatis, ad latera productis, interstitiis corrugatim striolatis; latere antico vix longiore, rotundato, postico rotundato flexuoso; intus alba.

_Hab._ Port Curtis, Australia. Mus. Cuming.

18. Semele Martini, A. Adams. S. testa ovato-trigonalis, crassa, convexiuscula, pallida, carnicolori radiatim picta; plicis concentricis, crassis, irregularibus, saepe dichotomis aut confluentibus, ornata, plicis postice validioribus et flexuosis; latere antico longiore, rotundato, postico breviore, valde flexuoso et subtruncato; intus albo-lutescente.

_Hab._ Rio.

This species is named after Captain Adolphe Martin, an assiduous collector and conchologist, who dredged it off Rio, in rather deep water.

19. Semele decorà, A. Adams. S. testa orbiculari, subæquilaterali, compressiuscula, crassa, alba, costellis radiantis et liris transversis concentricis reticulata; latere antico longiore, rotundato, postico subtruncato, valde flexuoso; intus alba.

_Hab._ —?

20. Semele pulchella, A. Adams. S. testa orbiculari, compressiuscula, albida, umbonibus roseis, albo radiatis; liris vix elevatis, transversis, concentricis, striisque longitudinalibus, radiantis ornata; latere antico rotundato, postico rotundato, flexuoso; intus rosea, marginie ventrali intus albo.

_Hab._ —?

21. Macgillivrayia straminea, A. Adams. M. testa turbinata, semipellucida, cornea, straminea, imperforata, nitidiuscula; anfractibus quatuor, planiusculis, ultimo rotundato; apertura ovali, antice subangulata; labio callo tenui, expanso oblecto; columella antice subflexuosa, non spinosa; labro acuto, simplice.

_Hab._ Western Ocean. Mus. Cuming.

22. Cominella crocea, A. Adams. C. testa bucciniformi, subperforata, crocea, spira producta, anfractibus quinque, superne concavis, cingulis transversis, elevatis, subnodosis, equalibus, rotundatis ornatis; interstitiis longitudinaliter striatis; apertura ovali, antice subangulata; labio callo tenui, expanso obtecto; columella antice subflexuosa, non spinosa; labro acuto, simplice.


23. Rapana (Rhizochilus) clathrata, A. Adams. R. testa ventricosa, imperforata, subpellucida, alba, anfractibus $3\frac{1}{2}$, con-

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vexis, superne subplanulatis, costellis transversis et longitudina-
libus valde clathratis; apertura ampla, ovali, antice in canali
brevi, obliquo desinente; columella lavi, subplanulata; labro mar-
gine crenulato.


24. RAPANA (RHIZOCHILUS) CORALLIOPHILA, A. Adams. R.
testa turbinata, subtrigoni, alba, umbilicata, anfractibus superne
planulatis, in medio nodoso-plicatis, ad suturas corrugatis, trans-
versim liratis, liris in anfractuum medio prominentioribus, squamu-
losis, asperrimis; apertura ovato-trigonalis, antice producta, acu-
minata, canaliculata; regione umbilicali callo scabro circum-
cincta.

Hab. Isle of Ticao, on the reefs at low water (H. C.).

25. RAPANA (RHIZOCHILUS) PULCHELLA, A. Adams. R. testa
turbinato-pyriformi, umbilicata, roseo-tincta; spira brevi, apice
albido; anfractibus quinque, ultimo ventricoso, suturis impressis,
longitudinaliter corrugato-plicatis, transversim liratis, lira unica
in medio anfractuum prominentiore; apertura ovato-trigonalis,
antice canaliculata; canali sinistrorum verso.


26. RAPANA (RHIZOCHILUS) SUTURALIS, A. Adams. R. testa
turbinato-ovali, umbilicata, alba; anfractibus sex, subplanulatis,
in medio subangulatis, longitudinaliter nodoso-plicatis, transver-
sim liris elevatis, rugosis, squamulosum ornatis; suturis valde
impressis; apertura trigonalis-ovata, antice subcanaliculata; labio
acuto; labro margine irregulare.

Hab. Bulusan, province of Albay, island of Luzon (H. C.).

27. RAPANA (RHIZOCHILUS) SCALA, A. Adams. R. testa sca-
lariformi, vix perforata, alba; spira elevata, anfractibus sex,
superne planulatis, in medio (supremis) nodoso-plicatis, trans-
versim liratis, liris elevatis, acutis, inaequalibus; interstitiis sub-
clathratis; apertura ovato-trigonalis, antice canaliculata; colu-
mella plana, exarata.


28. RAPANA (RHIZOCHILUS) FRAGILIS, A. Adams. R. testa
turbinato-fusiformi, umbilicata, alba, tenui, semipellucida, spira
apertura vix aequante; anfractibus quatuor, convexiunculis, lon-
gitudinaliter subplicatis, transversim liratis, liris squamuligeris,
in anfractuo ultimo validioribus; apertura ovali, antice angulata,
subcanaliculata; labio acuto; labro producto, irregulari.


29. RAPANA (LATIAXIS) NODOSA, A. Adams. R. testa subpyri-
formi, umbilicata, crocea, spira acumina, apertura aequante;
anfractibus sex, longitudinaliter nodoso-plicatis, liris transversis,
squamigeris, subaequalibus ornatis; apertura ovali, antice cana-
liculata, canali retrorsum curvato, regione umbilicali carina squamulosa circumcincta.


30. RAPANA (LATIAxis) FORTUNI, A. Adams. R. testa pyri-formi, spira aperturaæ æquante, late umbilicata, carneola; anfractibus sex, subimbricatis, superne planulatis, in medio sub-angulatis, costellis transversis, æqualibus, rotundatis, concine imbricatim squamulosis ornatis, interstitiis lutescentibus, niti-dis; apertura semiovali; labro intus sulcato; canali producto, dextrorsum curvato; regione umbilicali carina squamosa circum-cincta.

Hab. China (Mr. Fortune). Mus. Cuming.

31. MELANIA (PLOTIA) MIRIFICA, A. Adams. M. testa turrita, crassa, olivacea, transversim striata, fuscis fuscis, transversis, interruptis ornata, spira acuminata; anfractibus octo, planulatis, suprema longitudinally costatis, costis postice angulato-spinosis, ultimo et penultimo simplicibus; apertura oblongo-ovata, antice vix effusa; labro postice sinuato.


32. MELANIA (PLOTIA) ORIENTALIS, A. Adams. M. testa oblongo-turrita, epidermide nigerrima obtecta; spira acuminata; anfractibus septem, superne angulatis et valde plicato-spinosis; apertura oblongo-ovata, dimidium spira vix æquante; columella antice plana, subreflexa.


33. MELANIA (TIARA) SPECIOSA, A. Adams. M. testa ovato-oblonga, epidermide fuscæ, villosa obtecta, spira plana truncata; anfractibus planulatis, ad angulum spinis coronatis; apertura ovato-oblonga; columella antice subreflexa; labro antice subproducto.


July 26, 1853.

Dr. Gray, F.R.S., Vice-President, in the Chair.

Dr. Crisp exhibited the splenic vein of the Giraffe (which died last year at the Gardens), for the purpose of showing the valves. These, Dr. Crisp said, he had found in the splenic veins of many animals, and he believed they had never before been described, and that their mechanism tended to throw some light upon the function of the spleen.

Dr. Crisp also exhibited a drawing of the microscopical appearance of the cast-skin of the Toad (Bufo vulgaris). It consists of a beautiful network of hexagonal cells, with central nuclei.
The following papers were read:—

   By John Gould, F.R.S. etc.

Mr. Gould exhibited a collection of nests of Humming Birds, exemplifying the habitual characteristic structures of several genera. The first group to which his remarks were directed were the Hermit birds (Phaëthornis), which invariably build at the extremity of leaves, perhaps from the protection which that situation affords against the attacks of monkeys and other predatory animals. Oreotrochilus builds a beautiful nest, attached to the sides of rocks. Heliomaster mesoleucus makes a nest in a beautiful species of moss, depending from the trees. Most of the nests are cup-shaped, some being placed in forks, some on branches, some on leaves, some in ferns; they are shallow and delicately formed, ornamented in the most varied manner with feathers, or with festoons of moss and lichen, especially in the genus Hylocharis. The attachment of the lichen and other ornaments is effected by means of fine cobwebs.

The differences in the eggs of Humming Birds are not very observable; they are invariably two in number, white and oblong, with one supposed exception,—namely, that of a species inhabiting the Upper Amazon, which, according to Mr. Edwards, lays a spotted egg. But the differences of structure in the nests sufficiently corroborate the generic divisions into which these birds have been separated by modern ornithologists.

Most of the nests exhibited were from the collection of Mr. Reeves of Rio, who presented them to Mr. Gould in the most liberal manner, with a view to assisting him in the completion of his monograph of this family.

2. Description of a New Species of Sorex, from India.
   By R. Templeton.

Sorex? purpurascens, n. sp.

Dark slate-coloured, with a tinge of purple; snout beneath and lower lip brownish, with a mesial groove above, running back half the distance to the eyes; front covered with black hairs having white tips, and gradually increasing in length as they extend backwards to the eyes, and arched a little forwards; eyes small and very black; ears nearly naked and slaty brown; belly slaty grey; legs slaty brown, thinly covered with short greish hairs, which project in a little tuft over each claw, beneath naked; the toes with eight or nine transverse wrinkles; tail about two-thirds as long as the body, covered with short bristly hairs, and appearing beyond the middle somewhat grey from white annular wrinkles; furnished for about two-thirds of its length with long black bristly hairs.

Length of body, 2½ inches; tail, 1⅓.
3. On some Staphylinidae, found in the Nests of Termites. By M. Schiodte.

It has long been known that some species of ants keep insects belonging to different orders. The intention of the communication I am going to make is to point out that the same extraordinary phenomenon exists among the Termites.

The insects which I have now the honour to bring under the notice of the Society, dwell amongst a certain species of Termites in the Brazils, and were collected, together with the Termes, by Mr. Reinhardt, whilst travelling for the Royal Museum of Natural History in Copenhagen through the province Minas Geraês.

This Termes belongs to a peculiar little group of small species, the nests of which are built around branches of trees, and contain in their interior only a labyrinth of uniform passages, without any separate cell for the queen. The soldiers are not much larger than the working individuals, and are nearly as numerous; their head has its greatest dimension in the height; the front extends below in a large horn; the mandibles are not elongated, but exceedingly broad, and have a crenulated edge and a considerable horn on their outside.

From physiological as well as from anatomical reasons I am of opinion, that the constitutional state of the society of Termites is established on the same fundamental laws as the societies amongst the Hymenoptera. Several species of ants have also soldiers. The working Termites are quite different from the larvae. In the species here mentioned they may be distinguished by the form of the instrumenta cibaria, especially by the two teeth at the end of the interior lobe of the maxillae, which are separated by a pointed incision in the working individuals, but in the larvae by a rounded one.

The strangers or guests of Termites known to me are Staphylinidae, belonging to the group of Aleocharini; they constitute two new genera. They agree with Lomechusa and Dinarda, in having a corneous hook on the end of the interior lobe of their maxillae, but in other respects they present characters in the construction of the parts of the mouth and of the tarsi, which strikingly separate them from all other genera of that group. The abdomen is constructed in a most extraordinary manner, being membranaceous, of an enormous size, bent upwards so as to cover the thorax, and fixed in this position by the dorsal faces of the second and third segments having grown together.

Of one of the genera, which I have named Corotoca, two species are known to me (Corotoca Melantho and C. Phyllo); they are about 3 millim. in length from the front to the end of the second segment of the abdomen. Of the first of these I have observed both sexes. The male is a little smaller than the female, but otherwise only to be distinguished by the dissection of the organs of generation.

Of the other genus, named by me Spirachtha, the male is still unknown to me. The abdomen is furnished with three pairs of appendages, which are elongate, cylindrical, 2-jointed, membranaceous, and moveable by muscles at the base. These appendages are perhaps in-
tended for the same purpose as the tufts of hairs on the abdomen of the genus *Claviger*, which are known to be sucked by the ants; even in *Lomechusa* there are similar hairy appendages on the sides of the abdomen. Of this genus only one species is known to me (*Spirachtha Eurymedusa*), of about 2 mill. in length, from the front to the end of the second segment of the abdomen.

In the abdomen of both genera I have found eggs in different stages of development, in *Corotoca* even eggs with fully developed larvæ; so that, beyond doubt, these animals are viviparous.

If the *Strepsiptera* are to be considered as belonging to the order *Coleoptera*, an opinion which I endeavoured to prove as early as the year 1840*, this will be the second instance of viviparous *Coleoptera*.

Fam. *Staphylini*.

Trib. *Aleocharini*.

Genus *Corotoca*.


1. *Corotoca Melantho*. *Fusca*, fronte foveolata, pronoto multifoveolato, disco bituberculato; tibiis posterioribus fusiformibus, fuscis; scutis ventralibus segmenti quarti quintique transversis.—Mas., Fem.

Long. a fronte ad apicem segmenti secundi abdominis 2½—3 mill.

2. *Corotoca Phylo*. *Fusca*, vertice foveolata, pronoto multifoveolato, disco trituberculato; tibiis posterioribus linearibus, nigrofuscis; scutis ventralibus segmenti quarti quintique subquadratis.—Fem.

Long. a fronte ad apicem segmenti secundi abdominis 2½—3½ mill.

Genus *Spirachtha*.


*Spirachtha Eurymedusa*. *Albissima*, membranacea; antennis, capite, scutis thoracici et abdominalibus pedibusque corneo-

* See the introduction to 'Danmark's Eleutherata,' p. 21, note.
membraneis, pallide fuscis, coxis, femorum basi, trochanteribus posticis tibiiisque fuscis, oculis fusco-nigris.—Fem. Long. a fronte ad apicem segmenti secundi abdominis 2 mill.; lat. segmenti secundi abdominis 1 mill.

This paper will be printed in full, illustrated with plates from the author's drawings, in the Transactions of the Society.


This note contained a description of a method of capturing these animals with a net, which had proved so successful, that the number taken in Westmanhavn alone since 1843, when the net was first used, amounted to 2200, whereas between 1819 and 1843, 280 only had been secured. As each animal is considered to average thirty gallons of oil, this branch of industry has produced upwards of £4000 sterling to the inhabitants of Westmanhavn within the last ten years.

The meeting was then adjourned to Tuesday, November 8th.

November 8, 1853.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

   By Professor Owen, F.R.S., F.Z.S. etc.

Professor Owen communicated the chief results of his dissection of the Walrus (Trichecus rosmarus) which died at the Gardens of the Zoological Society, October 1853. The author prefaced his anatomical description by some remarks on the physiognomy, attitudes and movements of the living animal; and more especially dwelt on the superior strength of its fin-shaped limbs, as compared with the ordinary Seals, the Walrus being able, when it moves on dry land, to raise its trunk from the ground—in other words, to walk—a mode of progression which strikingly contrasts with the awkward shuffle of the Seal, as it trails its belly on the earth, aiding its fore fins with the action of its powerful abdominal muscles. Both the bones and muscles of the fins of the Walrus are more powerfully developed than in the Seal, and this, the author concluded, had reference to its natural habitat among bergs and floes of ice, and the necessity of clambering among and over their rough, irregular surfaces. The sex of the animal dissected was female; the mammae were four in
number, two abdominal and two inguinal. There was no trace of external ears. The eye is defended by a circular external eyelid, and by a broad thin *membrana nictitans*; there is a small Harderian, or inner lacrimal gland, but no true lacrimal gland, *punctum lacrymale*, nor *ductus ad nasum*. The subcutaneous cellular tissue was very coarse, tough and elastic, almost granular to the touch, and resembling a *corpus cavernosum*. The disposition of the peritoneum and of the viscera of the abdomen was minutely described, and it was remarked that the odour of the visceral cavities and parts in this Walrus resembled more that of ordinary land quadrupeds than the peculiar odour noticed in the dissection of Seals; but the flesh of the Walrus was dark coloured, as in the Seal tribe: the young animal dissected, had been fed, since its captivity, on oatmeal, milk, and water. The stomach had the form of an elongated siphon closely bent upon itself. The liver was divided into seven lobes. There was a large gall-bladder. The intestines in this young animal, which did not exceed four feet in length, were seventy-five feet long, the great intestine being only one foot in length, and the *cæcum coli* one inch and a half. The kidneys were very complex, each being made up of about 400 small kidneys or renules, and each of these showing the normal structure of a simple kidney, such as is found in the dog or lion, viz. with the cortical and medullary part, the pelvis, mammilla and ureter. In the description of the viscera of the chest, the large thymus gland was noticed, and the notched or serrated character of the anterior margin of the lungs. The *foramen ovale* and *ductus arteriosus* were both obliterated.

The following is the description of the heart of the Walrus:—The blood is returned into the right auricle by a large precaval and postcaval vein, and by the coronary vein, which terminates close to the latter: there is a small semilunar valve at the coronary orifice, but no eustachian valve. A broad crescentic fold, looking downwards, divides the sinus or fossa receiving the precaval vein, from the larger and deeper one receiving the postcaval vein: this fold answers to the upper border of the ‘fossa ovalis’ in the human heart; there is no orifice in the ‘fossa’ communicating with the left auricle. The appendix of the auricle extends in front of the base of the aorta as far as the pulmonary artery; it gradually contracts to an obtuse point: in the *Cystophora proboscidea* the auricular appendix is short, broad and bifid; in both it is occupied by a reticular arrangement of cæræe columnæ. The ventricles are broader in proportion to their length, and the apex is not produced, as in the *Cystophora proboscidea*: the cærææ columnæ of the anterior division of the tricuspid valve, and a few of those of the right or external division, are attached to a short and thick fleshy column from the free wall of the ventricle; this column is connected by a short and thick ‘trabeacula’ with the septum: most of the other tendinous chords are attached to the septum; and a few to trabeculae connecting that fixed wall with the free wall of the ventricle. The pulmonary artery presents no peculiarity; it is connected by the ligamentous remnant of the ‘*ductus arteriosus*,’ which is 10 lines long and 5 lines in diameter, to the under part of the aortic arch, just beyond the origin of the left subclavian; its
cavity is obliterated, but a short, thick, semilunar fold of the lining membrane of the aorta, with its concavity turned towards the end of the arch, indicates the place of the former foetal communicating channel. The left auricle and ventricle offer no peculiarities. The coats of the aortic arch are thickest near the origins of the great vessels sent to the head and fore-limbs, especially at the lower part of the arch, where they are 3 lines thick. The right subclavian and carotid arise close together, but scarcely from a common trunk; the left carotid and left subclavian have more obviously separate origins. The aorta suddenly diminishes beyond those primary branches, where it is connected with the consolidated and contracted ‘ductus arteriosus.’ There is no arrangement, even in the very young Walrus here described, for accommodating the animal to its aquatic habits, by any direct intercommunication between the right and left sides of the heart. The hepatic veins, in their dilatations, resemble those of the ordinary Seals.

The brain weighed 1 lb. 9 oz. avoird.; its convolutions and structure were described. The hip-joint was found to be devoid of the ligamentum teres. Drawings were exhibited of the visceræ of the thorax and abdomen, and the Memoir was terminated by a minute account of the dentition, and a disquisition on the homologies of the teeth of the Walrus, as elucidated by the state of the dentition in the young animal dissected.

Professor Owen detected the following minute teeth exposed or buried in the gum, and adhering to the gum and periosteum of the jaws:—two denticles in each premaxillary bone; two denticles in each maxillary bone; together with a deciduous canine, and four denticles in each ramus of the mandible. He gave the following as the formula of the deciduous dentition of the Walrus:—

$$i_2^2 = 2, e_6^1 = 1, m_2^2 = 18.$$

Of the permanent series, the canine tusks had pushed through the gum, and on laying open the substance of the jaws, the following teeth were found in course of formation:—in the premaxillary, the successor of the second minute incisor; in the maxillary, the successors of the two deciduous molars, together with a third molar. In the lower jaw the successor of the second deciduous incisor, the successors of the two deciduous molars, and a third similar permanent molar. The germ of the permanent tusk, confined to the upper jaw, was 2 inches in length, and, like the germs of the smaller permanent teeth, its base was widely open, and contained a large formative pulp.

In addition to the upper canine tusks, the normal number of permanent and functional teeth in the Walrus is four on each side of both jaws; these teeth are simple, short, thick and obtuse, having the office of grinders. With respect to their nature and homologies, Professor Owen argued that the first, from its position in the premaxillary bone, was an ‘incisor;’ the two following teeth, by their position in the maxillary bone, and their relation to the deciduous denticles, were ‘premolar’ teeth; and he also regarded the last of the series of four, from its minor degree of development, as belong-
ing rather to the same (premolar) series, than as being the first of the true molars. As the first of the molariform permanent teeth in the lower jaw passes in front of the permanent incisor above, when the mouth is closed, it must be regarded as an ‘incisor’; the other three grinders as being ‘premolars’, two being proved to be such by displacing vertically their predecessors, and the third also appearing to be of the same series by its state of development. The Professor accordingly proposed the following as the formula of the normal or functional dentition of the Walrus:

\[ i^{1-1}_{1-1}, c^{1-1}_{0-0}, p^{3-3}_{3-3} = 18. \]

But, as might be expected in a dentition deviating so remarkably from that of other Mammals of the same order, varieties are not unfrequently met with in the number of the teeth of the Walrus. Professor Owen cited instances of such varieties in ten skulls of the Walrus, of different ages and sex. The result of which was, that occasionally a small tooth was found anterior to the normal series of four, and more commonly in the upper than in the lower jaw; and that, more rarely, a small tooth was superadded behind the normal four, in the upper jaw, and still more rarely in the lower jaw: the formula of the dentition of such varieties, in excess, being,—

\[ i^{2-2}_{2-2}, c^{1-1}_{0-0}, p^{3-3}_{3-3}, m^{1-1}_{1-1} = 26. \]

The additional anterior small incisor was due either to the retention and growth of the first deciduous denticle, or to the development of a small successor to it. The additional posterior grinder was due to the occasional development of a germ in the back part of the gum or jaw. The minute milk-teeth relate, by their gubernacula, to the development of the permanent teeth, but seem never to be put to use themselves; the milk-canine was buried in the gum outside the protruded point of the permanent canine; so that this tooth is extricated and cuts the gum before the tooth of which it is the successor makes its appearance, that tooth being probably removed by absorption. Here, therefore, was another instance, analogous to that of the rudimental teeth in the foetal Whale, of parts developed without any obvious office as organs of mastication, but serving to illustrate the relation of adhesion to a more normal type of dentition. In conclusion, Professor Owen remarked that the food of the Walrus consisted, in a state of nature, of sea-weed, crustaceans and mollusks; and that although, by the totality of its organization, it must be placed near the Seals, and with them be classed in the order Carnivora, yet that the incisors and premolars were alike well adapted to pound marine plants, and to break and crush shells. Fragments of a bivalve shell, a species of Mya, had been found with pounded sea-weed, by the Surgeon of Parry’s Polar Expedition, in the stomach of a full-grown Walrus. The great descending canine tusks serve as weapons of offence and defence, and to aid the animal in mounting and clambering over ice-blocks, bergs and floes in the Arctic Seas, in which the Walrus has been organized to enjoy its existence.
2. Description of a New Species of Corynactis.

By William Thompson.

Corynactis heterocera.

Spec. Char.—Coriaceous; the tentacula in each row varying in shape, the animal but slightly mutable.

This Corynactis measures nearly an inch in diameter, and the same in height, when in a state of expansion; when contracted it has the shape of a button and is firm to the touch, coriaceous, and of a delicate yellow colour.

The body is covered by an epidermis, which is easily detached and slimy; when this was rubbed off the animal was of a dirty white; the epidermis was replaced in a few days, when the animal recovered its colour; when portions only of the epidermis are rubbed off, it has a mottled appearance.

When closed all the tentacles are completely withdrawn.

The margin of the disk is crenated; the tentacles are placed within it.

The tentacles in the outer row are thirty-two in number; the other three rows have each two or three less; there are four rows in all. The tentacles in each row differ from the others; those in the outer row are the longest, then those of the second, third and fourth, in the order that I have named them; the third and fourth rows having the peduncles so short as to be nearly sessile. The shape of the tentacles, as I have stated, differs much. The rows of tentacula, as also the individual tentacles, closely approximate; those in the outer row diverge slightly, and, when looked at from above, bear the appearance of a finely-lobed edge to the disk, the real margin being hidden by the heads of the tentacles hanging over it. The tentacles in each row appear to the eye short, stout and capitate; those in the first or outer row have the head bilobed or kidney-shaped, and a round tubercle placed below the head on the inner side; all the tentacles are horizontal. The tentacles of the second row are of a peculiar construction, apparently uniting the capitate extremities of Corynactis with the elongated form of Actinia; the apex is a spear-shaped process, and this is seated on a peduncle formed by four globose bodies placed two and two, and divided from each other by constrictions more or less deep. In the third row the peduncles of the tentacles are very short, thick and capitate; the crown is round, rather oblong, and with a constriction at half the distance from each end, giving the crown the appearance of a figure of 8. The fourth or innermost row is short, or shorter than those in the third; they are in fact nearly sessile. The heads of the tentacles in the fourth row appear occasionally to vary; sometimes being of the same shape as those in the third row, that is, bilobed, whilst at other times they are decidedly five-lobed. The whole of the tentacula are straight, rigid, regularly disposed, and point slightly outwards. They slightly change their shape at times when the animal is opening; this however is not always the case.

The disk within the inner row of tentacles is ample.

The mouth is formed of two crenated lips, forming a straight ori-
fice; at times this is drawn into the shape of a crescent. Whilst
 copying this portion of my notes, my Corynaectis does not appear quite
easy; it has thrown out its lobes, covering every part of the disk,
with the exception of the crenated margin; the lobes do not rise, as
in species of Actinia, above the margin; they are on the contrary flat
and even with it, and are firm to the touch.
The colour of the animal is a delicate yellow or buff. The disk
is of a pellucid white, streaked with fine radiating lines of a dead
white. The tentacles of the first row are pellucid white, with the
capitate extremities dead white; the tentacles in the three remaining
rows are also pellucid white, in parts tinged faintly with a reddish
hue; the capitate extremities have a powdered white edge. The
mouth is of a darker yellow than the body.
This species does not appear to change its shape very much, thus
differing from the other known British species; the only change I
have noticed was that from a state of contraction to one of expan-
sion, from the button shape to nearly a true cylinder, of pretty equal
dimensions at both extremities, with a constriction immediately under
the crenated margin. It easily adheres by its base to any substance,
and may be said to be rather lively, often continuing for some time
constantly opening and closing.
It also throws out lobes in the manner of other Actiniadæ, and
these at times completely cover the disk. If touched it instantly
contracts, but does not turn sulky, commencing immediately to re-
open, which it does very slowly, and this by exerting the tentacles
on one quarter of the disk before it begins to exert those on the
other three quarters. The tentacles have not the motion of Actinia
or Anthea. I dropped a piece of meat on the disk when opened; it
remained there some little time without being taken into the stomach;
after some time the animal wished to rid itself of the meat; it then
slowly bent over, and the meat rolled or floated across the tentacles
without being impeded by them. When taken this animal was per-
fectly smooth and free from all foreign substances, such as sand and
gravel.
The appearance of this Corynaectis reminds me of a coronet, the
heads of the outer row of tentacles bearing a resemblance to the balls
on the edge of the coronet, and this more so than in either C. viridis
or C. Altmannii; and I should have proposed the specific name of
coronalis, did it not partly apply to the other species.
Corynaectis heterocera, it will have been seen by the description,
differs very materially from the other British species, in the form of
the tentacles, the colour, the superior size, the coriaceous texture, its
general immutability of form, and in having no foreign substance
attached to the epidermis when caught, as in C. Altmannii. I have
named it heterocera in reference to its most prominent distinction
from the other species in its differently shaped tentacles.
Hab. Dredged in Weymouth Bay, in 8 fathoms of water, on a
gravelly bottom, Sept. 10, 1853.
November 22, 1853.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:

1. **Descriptions of Two New Species of Humming Birds, from Peru.** By John Gould, F.R.S.

1. **SPATHURA CISSIURA.**
   
   General plumage bronzy green; wings purplish brown; four outer tail-feathers purplish steel black; under surface green, paler on the throat; thighs thickly plumed and of a reddish buff.
   
   Total length, 4 1/4 inches; bill, 5/8; wing, 1 5/8; tail, 2 3/8.
   
   **Hab.** Peru.
   
   **Remark.**—Most nearly allied to *SPATHURA PERUANA*, but differing from that and all the other members of the genus, in having the outer tail-feathers webbed throughout their entire length, and consequently the spathulate tips less conspicuous.

   
   All the upper surface mealy bronzy green; throat of a glittering amethystine hue; under surface buff, deepest on the sides; tail narrow, rigid and black.
   
   Total length, 2 3/8 inches; bill, 9/16; wing, 1 5/16; tail, 3 5/8.
   
   **Hab.** Peru.
   
   **Remark.**—This is a very diminutive species, and differs from all others in the extreme shortness of the tail, which is exceeded in length by both the upper and under coverts.

2. **Descriptions of Two New Genera (Pfeifferia and Janelia) of Land Mollusca.**

   By J. E. Gray, Ph.D., F.R.S., V.P.Z.S.

   Some years ago I described a new genus of Helices under the name of *NANINA*, remarkable from the mantle of the animal being reflexed and produced over the surface of the shell, as in *Vitrina*, but differing from that genus in the shell being more Helicoid, and in the mantle not being produced in front, or forming a kind of shield over the back of the neck; this genus has been very generally adopted, and now contains a large number of species.

   The animal of *Nanina*, like the *Parmacelae* and *Helicariones*, has the hinder part of the uppermost extremity of the foot truncated and furnished with a linear perpendicular gland with thickened lips.

   Mr. Cuming, who lately supplied me with a number of animals of shells in spirits, sent me, along with other kinds, specimens of a shell which Dr. Pfeiffer has described under the name of *Helix micans*, which at once attracted my attention, on account of the shell near
the peristome being covered with a thin reflexed portion of the mantle. I at first considered it was a modification of the genus *Nanina* with a more dilated mantle, and a much more globular shell; but on more particular examination, I am convinced that it is the type of a new genus, as the back of the foot is depressed and flattened, and quite destitute of any appearance of a subcaudal gland.

I propose to call this genus *Pfeifferia*, after my excellent friend Dr. Louis Pfeiffer, the author of the "Monographia Helicum;" it may be characterized as follows:

**Pfeifferia.**

Animal large for the size of the shell; mantle edge expanded, thin, reflexed over the outer surface of the shell when contracted in spirits, forming an even margin to the outer part of the peristome. Foot moderate, depressed behind, acute at the tips, without any subcaudal gland. Shell subglobose, imperforate, thin, brittle, white, pellucid. Spire with small whorls, third and fourth rapidly enlarging, the last inflated; aperture rounded, lunate. Columella slightly and regularly arched. The peristome thin, straight, acute.

Mr. Cuming informs me, that when he poured boiling water on them, to kill them, the animal, in attempting to return within the shell, burst it, from being so much larger than the shell itself; he was consequently compelled to drown the animal and let it remain in the water until it was half putrid, by which means he was able to procure sound shells. He tried boiling water several times, and destroyed some hundreds of shells before resorting to the latter means.

I may observe, that the animal in spirits does not give one the impression of being so large, compared with the shell, as the above description would imply; but, like the *Succinea*, *Vitrina* and other genera, these animals appear to have the faculty of absorbing a quantity of moisture and of inflating their bodies and making them appear of a large size, and when suddenly killed they have not the power of lessening it, but while alive they certainly have. During dry and perhaps cold weather they expel the air and water, and so contract their bodies, that they can be withdrawn a considerable distance within the cavity of the shell. I have often seen this economy in the amber snails, *Succinea*, and the shield shells, *Vitrina*, and Professor Nilsson has observed the same fact with regard to the latter genus, as quoted by me (Gray, Turton Man. 119).

The type of the genus is

**Pfeifferia micans.**


*Corasia micans*, Albers, Heliceen, 111.


*Hab*. Luçon.
Mr. Cuming observed it in the greatest abundance on the leaves of bushes at St. Jauno, in the province of Cagayan, at the extreme north part of the island of Luçon.

Dr. Albers refers the species to his subgenus Corasia, consisting of Helices with large reflected peristomes; the shells have some resemblance to the young imperfect specimens of some species of that genus, as Helix Albaiensis, but they differ from them in the pillar lip being evenly arched and imperforate, and not straight from the axis and slightly perforated, as in their young shells it always is.

MM. Quoy and Gaimard described a land mollusk which they discovered on leaves in Tasman's Bay, New Zealand, under the name of Limax bitentaculatus, Voy. Astrolabe, t. 13. f. 1, 2, 3. They only found a single specimen, which, they say, they only partially examined. From this description, as the animal differed from Limax in so many particulars that it was impossible to keep it in that genus, I formed a provisional genus for it under the name of Janella, in the 4th volume of Mrs. Gray's 'Figures of Mollusca,' p. 112. I have just received from New Zealand a specimen of land mollusk which agrees with the animal described by MM. Quoy and Gaimard in so many particulars, that I am inclined to believe it to be either the species they observed, or a second species of the same genus; and as it offers some peculiarities not noticed in their description or figure, I shall proceed to characterize the genus.

Janella.

Body elongate, convex; back rounded; tail not keeled, tapering, acute behind, without any subcandal gland. Mantle covering the whole of the back, with a slightly raised lateral margin, leaving a rather broad space between its edge and the edge of the foot, thin, smooth, with a longitudinal groove along the centre of the back extending the whole length of the animal, and giving out branches from each side which diverge backward to the edge; in front, over the head, there is given out a short, straight, diverging branch on each side to the hinder base of the tentacles, then forked, and the two branches continued on the under edge of the mantle to the corner of the mouth; tentacles two, arising from the front just within the edge of the mantle, and quite retractile like those of the Slugs. Aperture of respiration a very small round foramen, with a raised edge, on the right side and close to the central groove on the back, just above the aperture of reproduction. Mouth inferior, just at the end of the foot, with three tubercles in front, which are formed by the continuation of the grooves on the front of the mantle. Aperture for reproductive organs on the front part of the edge of the right side of the mantle, about one-fourth the entire length from the head.

The foot narrow, divided into three indistinctly-marked longitudinal bands, the middle band rather the widest, the lateral bands with rather distant cross grooves, most distinct on the outer edge, and
with shorter marginal grooves between them, giving the edge of the foot a crenated appearance; the end of the body becomes suddenly more slender, with a prominence on the back just before this sudden alteration, as if the mass of the viscera were confined to the first two-thirds of the body; but this may be caused by the contraction of the animal from being in spirits.

Shell none, or at least there is no appearance of any through the skin.

**Janella antipodarum.**


This genus is most nearly allied to *Philomycus (= Tebenophorus, Binney = Līmacella, Blainville)*, with which it agrees in having a thin mantle covering the whole of the back; but it differs from it in the position of the respiratory aperture, and in the presence of only two tentacles, which, instead of being placed on the head, as in *Philomycus* and all the other *Arionidae* and *Helicidae*, are placed in the front part of the mantle. All these characters induce me to regard it as the type of a new family of *Pulmonata*, which may be called *Janellidae*.

3. **ON THE ATTITUDES AND FIGURES OF THE MORSE.**

*By J. E. Gray, Ph.D., F.R.S., V.P.Z.S.*

The arrival of a living Morse, or Walrus, in this country, showing that it is very different in its manner of moving from the Seals, has induced me to examine and compare the figures which have hitherto been given of this animal. Most of the oldest figures were purely imaginary. To this series must be referred the *Rosmarus* and

![Fig. 1. Rosmarus. Gesner, Addenda, 368, 16. 1560. (Reduced one-ninth.)](image-url)
*Vacca marina* in the Addenda to Gesner (pp. 368, 369), published in 1560, and the *Porcus monstrosus* of Olaus Magnus (p. 788), published in 1568. They all have more or less elongated tails, four feet, and the elongated tusks in the lower jaw.

The *Rosmarus* of Olaus Magnus (p. 789) agrees with the preceding in most of its characters, but has the tusks in the upper jaw.
Gesner, in his Icones, 1560 (p. 178), gives another figure more like a Seal, and with the teeth in the upper jaw; but it is represented as having four feet, with claws like a Cat's, the fore legs being furnished with short wings at their junction with the body; and the body ends in a broad fan-like tail, similar to the hinder extremities of the Seal. This figure is copied in Jonston's 'Pisces,' t. 44, in 1657.

Fig. 6. Sea Horse. 1609.

In 'The Three Voyages to the North in the year 1609,' reprinted by the Hakluyt Society, a plate shows a "true portraiture of our boat, and how we nearly got into trouble with the sea horses." This animal is represented like a Seal, with the teeth in its upper jaw, but the back is arched, and the belly a considerable distance from the ice, on which it is walking. Another very rough seal-like figure is given in Marten's 'Spitzbergen in 1675,' tab. P. fig. b. Buffon,
in 1765, in the tenth volume of his 'Histoire Naturelle,' t. 54, gives the figure of a male, evidently from a stuffed skin, exactly resem-

Fig. 8. Le Morse. Buffon, xiii. t. 545. 1765.
(Reduced two-fifths.)

bling the common Seal in form and position; and this figure has been repeatedly copied.

In a small quarto tract, called the 'Histoire du Pays nommé Spitsberghe, écrit par H. G. A., Amsterdam, chez Hessel Gerard A.,' 1613, a plate at page 20 contains an excellent figure of the Morse and its young, "ad vivum delineatum ab Hesselo G. A."

Fig. 9. Walruss. Ad vivum delineatum ab Hesselo G. A.
(Reduced four-sevenths.)

This figure was repeated in Laet's 'Amer. Descript.' p. 28, 1633, by Jonston, 'Pisces,' t. 44, in 1657, and by Shaw, 'Zoology,' t. 68#. from Jonston.

In Cook's last 'Voyage' there is a fine plate (t. 52), after a drawing by Westall, of a boat's party attacking a drove of Sea-horses; the centre animal of this group is copied, under the name of the Arctic Walrus, by Shaw, 'Zoology,' t. 68. This figure also represents the animal in its natural position, with the hinder legs bent under the
body, but the figure is more artistic and less natural than that of Mr. Hessel Gerrard A.

Fig. 10. Arctic Walrus. Cook's last Voy. t. 52. Shaw, Zool. t. 68.
(Reduced one-sixth.)

By Arthur Adams, F.L.S., Surg. R.N.

1. Conus optabilis, A. Adams. C. testa pyramidato-conica, solida, levigata, albida, immaculata; spira conica, acuminata, apice acuto; anfractibus permultis, in medio angulatis, radiatim striatis; labro in medio producto, postice prope suturam valde inciso.
Hab. — ?

2. Conus sulciferus, A. Adams. C. testa oblongo-turbinata, solidissima, transversim valde sulcata, sulcis distantis, longitudinaliter elevatim striatis; fusca, maculis obscuris, albidis, transversim dispositis, ornata; spira acuminata; anfractibus gradatis, transversim valde sulcatis et transversim striatis, ad peripheriam luteo maculatis; apice elato, acuto.

3. Conus cyanostoma, A. Adams. C. testa turbinata, conica, leviter inflata, subcinerea, fascis tenuibus, articulatis, maculisque fuscescentibus sparsim variegata, basi valde sulcata;
apertura fauce violaceo-purpurea; spira ad suturas sulcata, anfractibus gradatis; apice elevato, acuto.

This species belongs to the subgenus Hermes, and differs from H. nussatella in the last whorl being roundly angulated posteriorly, in the elevated distant ridges and in the obtuse spire: in form it is like H. violaceus.

5. Conus cælatus, A. Adams. C. testa parva, turbinato-conica, transversim valde sulcata, sulcis distantibus, longitudinaliter elevatim striatis; albida, aurantiaco late reticulata; spira depresso-concava, anfractibus sulcatis, concinno coronatis; apice mucronato, subacuto.

6. Conus sticticus, A. Adams. C. testa elongato-turbinata, laevi, nitida, ad basin valde sulcata, fusca, fasciis nigro alboque articulatis, confertis, ubique cincta; spira valde elata, anfractibus gradatis, ad peripheriam albo maculatis; apice acuto.
Hab. —? Mus. Cuming.

7. Conus pulcher, A. Adams. C. testa elongato-turbinata, transversim sulcata, longitudinaliter tenuissime striata, sulcis cancellatis; albid, rufescente nebuloa, fasciis angustis, albo rufoque articulatis, ubique ornata; spira acuminata, anfractibus coronatis, transversim liratis et striatis; apice acuto, mucronato.
This species belongs to the section Cylindrella.

8. Conus dealbatus, A. Adams. C. testa obeso-turbinata, laeviuscula, basi oblique valde sulcata, alba, nitida; spira elata, concava; anfractibus striatis, convexusculus; apice acuto.
Hab. —? Mus. Cuming.

9. Conus commodus, A. Adams. C. testa elongato-turbinata, angusta, laevi, basi oblique sulcata, alba, epidermide fulva obtecta; spira elevata, convexo-acuta, pallide fulvo variegata; apice elato, acuto, suturis valde impressis; anfractu ultimo postice acuto, carinato.
Hab. —? Mus. Gruner.

10. Conus neglectus, A. Adams. C. testa pyramidato-conica, subventricosa, transversim sulcata, carneola, rufescente variegata, fascia unica rufa, lineisque transversis, albo rufoque arti-
culatis, ornata; spira depressa, rufo radiatim pieta, anfractibus concentriace striati, in medio depressiusculis.

**Hab.** — ? Mus. Cuming.

11. **Conus luridus**, A. Adams. *C. testa pyramidato-conica, larsi, longitudinaliter striata, cinerascens, fascis duabus distantibus, albis ornata; anfractu ultimo postice zona albo-articulata cincta; spira depressa, anfractibus concavis, sutura impressa.

**Hab.** Australia. Mus. Cuming.

12. **Conus vinctus**, A. Adams. *C. testa turbinato-conica, solida, longitudinaliter striata, olivacea, maculis albis, irregularibus, lineisque transversis, nigro alboque articulatis, undique ornata; spira oblonga, anfractibus subgradatis, marginibus rotundatis, in medio sulcatis; labro arcuato; apertura antice subeffusa.

**Hab.** Australia. Mus. Cuming.

13. **Conus succinctus**, A. Adams. *C. testa turbinato-conica, ventrosa, larsi, carneola, fascia angusta, albo rufa articulata, in medio succincta, fascia altera evanida, anteriore; spira obtusa, anfractibus subgradatis, marginibus rotundatis, in medio sulcatis; labro arcuato; apertura antice subeffusa.


14. **Conus angulatus**, A. Adams. *C. testa pyramidato-conica, larsi, nitida, solida, alba, maculis rufescensibus variegata, maculisque rufis, in fascis transversis dispositis, ornata; spira acuta, concava, anfractibus levibus, anfractu ultimo postice acute angulato; labro tenui, acuto, in medio producto, postice valde inciso.

**Hab.** — ? Mus. Cuming.

15. **Conus assimilis**, A. Adams. *C. testa turbinato-conica, longitudinaliter striata, transversim creberrimae sulcata, sulcis antice validioribus, alba, maculis caeruleo-nigris, irregularibus, undulatis, lineisque transversis, nigro rufa articulatis, ornata; spira conica, acute, anfractibus cancellatis; apice roscea, mucronato; labro arcuato, margine intus albo nigroque articulato.

**Hab.** Australia. Mus. Cuming.

16. **Conus Hevassyi**, A. Adams. We have imposed this name upon the *Conus pulchellus* of Sowerby, that appellation having been already employed for another species.

17. **Conus innexus**, A. Adams. *C. testa elongato-turbinate, larsi, solidissima, fulva, aurantiaco nebulosa, fascis duabus, latis, rufo-fuscis, lineisque transversis, articulatis, subconfertis ornata; spira conica acuminata, anfractibus subgradatis, concentricae valde liratis, marginibus rufo-fusci, labro recto, postice arcuato; apertura intus alba.

18. **Conus anceps**, A. Adams. *C. testa pyramidato-conica, transversim striata, antice valde sulcosa, solida, alba, rufovariegata, fascis duabus, transversis, aurantiacis ornata; spira conica, acuta, anfractibus excavatis, ad suturas subcrenulatis, anfractu ultimo postice subrotundato; labro in medio inflexo.*

19. **Conus comptus**, A. Adams. *C. testa turbinato-conica, ventricosula, laevi, nitida, antice oblique sulcata, fulva, cingulo unico macularum fuscarum ornata; anfractu ultimo postice connexo, antice attenuato, basi subreflexo; labro tenui, arcuato; spira depressa; anfractibus concentricis sulcatis, marginibus subnodulosis.*

20. **Conus fasciatus**, A. Adams. *C. testa elongato-turbinata, nitida, transversim striata, albida, fasciis tribus, latis, aurantiacis ornata; spira depressa, anfractibus concavis, extus marginatis; labro in medio coarctato; anfractu ultimo postice angulato.*
   *Hab. ———? Mus. Cuming.*


22. **Conus stigmaticus**, A. Adams. *C. testa elongato-turbinata, levii, basi oblique sulcata, alba, maculis rufis irregularibus, in seriebus tribus dispositis, ornata; spira elevatiuscula, anfractibus concavis, transversim sulcatis, fasciis rufis radiatim piciatis; apice acuto, submucronato; labro acuto, margine arenato.*

23. **Conus præcellens**, A. Adams. *C. testa pyramidato-conica, albidæ, maculis irregularibus, rufescentibus varie picta, transversim valde lirata, interstitiis pulcherrime cancellatis; spira valde elata, acuminata, anfractibus multis, angulatis et cancellatis, anfractu ultimo antice attenuato; labro in medio inflexo, postice valde inciso.*

24. **Conus desidiosus**, A. Adams. *C. testa pyramidato-conica, leviissima, basi oblique sulcata, pallide fusca, fascia albidæ, transversa, lineisque castaneis, interruptis, confertis, et lineis albidis undulatis postice ornata; spira elata, conica, anfractibus planiusculis, in medio transversim bisulcatis; labro arcuato, postice inciso.*

Genus Plecotrema, H. & A. Adams.

Testa ovato-conica, umbilicata, transversim sulcata; spira elata, acuta; apertura angusta; labio triplicato, plica mediana bipartita; labro extus incrassato, intus bidentato.

Shell ovate-conic, solid, umbilicated; spire elevated, acute; aperture contracted, oblong; inner lip with three plaits, the middle one bifid; outer lip with a marginal varix, internally bidentate.

A genus of small shells allied to Cassidula.

1. Plecotrema typica, H. & A. Adams. P. testa ovato-conica late et profunde umbilicata, pallide ferruginea, fulvo cincta; spira conica, elata, transversim valde sulcata, anfractu ultimo basi truncato; apertura angusta; columella triplicata, plica mediana bipartita; labro extus incrassato, quasi varicoso, margine antice subreflexo, intus bituberculato; umbilico patulo, perspectivo.


This is the most characteristic species of the genus, and is remarkable for the great size of the umbilicus, causing the base of the shell to appear as if truncated.

2. Plecotrema monilifera, H. & A. Adams. P. testa ovato-conica, vix perforata; spira conica, acuta, transversim lirata, liris granulosis, moniliformibus, confertis; apertura angusta; columella triplicata, plica mediana bipartita; labro extus incrassato, quasi varicoso, margine antice subreflexo, intus bituberculato; umbilico patulo, perspectivo.

Hab. ——? Mus. Cuming.

This species is not distinctly umbilicated, and the conspicuous transverse lirse are granular, so as to assume a moniliform appearance; the columella, as usual in this genus, is furnished with three plaits, and the outer lip is thickened externally.

3. Plecotrema punctigera, H. & A. Adams. P. testa ovata, vix perforata; spira conica, obtusiuscula; fulva, fusco-zonata, transversim punctata, punctis in lineis aequidistantibus, transversis dispositis; apertura angusta, coarctata; columella triplicata, plica postica tuberculiformi, mediana bipartita; labro intus tuberculato, tuberculo mediano valido.


The most conspicuous feature in this species consists of the numerous distinct punctures arranged in transverse rows, and in the character of the tubercles in the interior of the outer lip.

4. Plecotrema imperforata, H. & A. Adams. P. testa ovato-conica, imperforata; spira elata, obtusiuscula; pallide fusca,
transversim punctato-striata; anfractibus supremis transversim sulcatis, ultimo basi attenuato, postice valde transversim sulcato; apertura angusta; columella triplicata, plica mediana bipartita; labro intus quadrituberculato.

_Hab._ Philippines.  _Mus._ Cuming.

In this species there is no umbilicus, and the last whorl is pointed and subacute anteriorly; the whorls of the spire are sulcate, and the outer lip is furnished internally with four tubercles.

5. _Plecotrema lirata_, H. & A. Adams.  _P._ testa umbilicata, ovato-conica, fusca, pallide fulvo-cincta; spira acuta, anfractibus planis, transversim liratis, liris confertis; apertura parva, angusta; labio subcalloso, tripli cate, plica postica obsoleta, tuberculiformi; labro extus incrassato, intus bidentato; umbilico intus costa elevata, spirali munito.

_Hab._ Moreton Bay.  _Mus._ Cuming.

In this species the outer lip is thickened, and there is a spiral callus in the rather wide umbilicus.

6. _Plecotrema clausa_, H. & A. Adams.  _P._ testa rimata, ovato-conoidea; spira acuta; rufo-fusca, aut pallide fulva, transversim lirata, liris confertis, elevatis; apertura angusta, ringente; labio calloso, triplicato, plica mediana bipartita, antica pervalida; labro extus incrassato, margine in f lexo, intus valde bidentato.

_Hab._ Sandwich Islands.  _Mus._ Cuming.

The aperture in this species is very narrow and ringent, the outer lip is thickened externally, with the margin somewhat reflexed, and the umbilicus is reduced to a narrow fissure.

7. _Plecotrema decussata_, H. & A. Adams.  _P._ testa ovatoconica, umbilicata; spira conica, apice acuto; brunnea, longitudinaliter striata, transversim sulcata, liris intermediis subgranulosis; apertura oblonga, angusta, antice quadrata, quasi truncata; columella triplicata, plica postica tuberculiformi, mediana bipartita; labro acuto, extus pallide fusco, intus albo marginato, bituberculato; regione umbilicali carina spirali circumcincta.

_Hab._ Philippines.  _Mus._ Cuming.

The base of the last whorl, owing to the large size of the umbilicus, appears as if truncated.

8. _Plecotrema punctato-striata_, H. & A. Adams.  _P._ testa ovata, solida, vix rimata; spira elata, conica; ferruginea, transversim punctato-striata; apertura oblonga, angusta; columella triplicata, plica postica tuberculiformi, mediana bipartita; labro acuto, intus albo-marginato, tridentato.

_Hab._ Borneo (Lient. Taylor).  _Mus._ Cuming.

The transverse striae in this species are conspicuously punctate, and there are three tubercles in the interior of the outer lip; the spire is acute, and the last whorl rather produced, with only an umbilical fissure.
9. *Plecotrema concinna*, H. & A. Adams. *P. testa umbilicata, ovato-conica; spira elata, apice acuto; sordide fulva, transversim valde sulcata, liris intermediis subgranosae; apertura parva, angusta; labio calloso, columnella triplicata, plica mediana bipartita; labro extus marginato, margine reflexo, intus bidentato; umbilico magno, patulo.*

*Hab. ——? Mus. Cuming.*

The umbilicus in this species is large and open; the inner lip is callous, and the outer lip thickened externally, with the margin somewhat reflexed.

10. *Plecotrema exarata*, H. & A. Adams. *P. testa ovato-conica, umbilicata; spira elata, acuta; brunnea, transversim sulcata, liris intermediis leviusculis; apertura angusta; columnella triplicata, plica mediana bipartita; labro extus incrassato, margine antice subreflexo, intus bitubercolato.*

*Hab. ——? Mus. Cuming.*

In this species the umbilicus is pervious, and the spire is elevated and acute; the spaces between the transverse grooves are nearly smooth, and the margin of the outer lip is somewhat reflected.


*Anric. faber*, Féussae.


_Pedipes inequalis_, C. B. Adams, Contrib. to Conchology.

December 13, 1853.

R. C. Griffith, Esq., in the Chair.

The following papers were read:—

1. **Descriptions of New Species of Bucconidæ.**
   **By Philip Lutley Sclater, F.Z.S.**

   (Aves, Pl. L. I.)

1. *Bucco radiatus*, Sclater. (Pl. L.) *B. supra clare ferrugineus, nigro transversim radiatus; nucha et dorso summo paene omnino nigris; corpore subitus et torque cervicali supra pallide fulvescenti-albis; capitis lateribus, pectore et ventris lateribus lincis nigris transversim radiatis; loris, gula, ventre medio cirosoque albis; pedibus nigris; rostro plumbeo.

Long. tota 8'0; aile, 3'4; caudæ, 3'0.
Obs. B. chacuri affinis, sed subitus radiatus et rostro plumbeo nec rubro; maculis auricularibus nullis.

2. **Buocco striatipectus**, Sclater. *B. corpore supra nigrescente, alis caudaque magis brunnescentibus, omnilo rufescence transversum striatis; capite nigro fere immaculato; mento albo; gutture toto et collo undique fulvo-rufis; pectore et ventris lateribus albis, nigro longitudinaliter striatis; ventre medio albo, crisso fulvescente.*
Long. tota, 7'8; alae, 3'5.
Hab. in Bolivia. Mus. Derbianus.
Obs. Species *B. maculato* maxime affinis sed subitus striis nigris nec maculis rotundis aspersa.

3. **Malacoptila fulvogularis**, Sclater. *M. capite toto et dorso summo nigris, scapis plumarum clare fulvis; dorso, alis caudaque fuliginoso-brunneis; dorso medio punctis paucis triangularibus fulvis; uropygii plumis anguste fulvis; capite nigro; capite et dorso summo nigrrescentior; cauda immaculata; ventre pallide rufae; pectore nigro, scapis plumarum late albis; ventre pallide fulvescente.*
Long. tota 8'5; alae, 3'7.
Hab. in Bolivia. Mus. Derbianus.
Affinis *M. torquatae*, Hahn.

4. **Malacoptila substriata**, Sclater. (Pl. LI.) *M. supra umbrino-brunnea, capite nigrescentiore; capite et dorso summo longitrorsum fulvo striolatis; dorso et uropygii plumis rufescentibus, ochraceo angustae marginae; alis caudaque immaculate cinerascenti-brunneis; loris et mystacibus elongatis, albis; lateribus capitis et corpore infra nigrescentibus, ochraceo et albo late striatis; gula media et pectore toto rufescenti-ochraceis; ventre brunneo et ochraceo-obilido confuse mixto; cauda subitus cinerascentiore; rostro pedibusque nigris.*
Long. tota, 7'8; alae, 3'8; caudae, 3'8.
Hab. in Nova Grenada.

5. **Malacoptila aspersa**, Sclater. *M. supra fuliginoso-brunnea, dorso rufescentiore; alis caudaque immaculate brunneis; nucha, dorso toto et alarum tectribus maculis triangularibus, clare fulvis, aspersis; loris albescentibus; regionis auricularis plumarum scapis pallide fulvis; mystacibus et plumis mentalibus rigidis; gula alba; pectore in ferrugineum transcursae; ventre toto crisoque obscure albis, ferrugineo tinctis; pectore et ventris lateribus obsolete fuliginoso-striatis; rostro nigro, mandibula inferior ad basin flava; pedibus obscure brunneis.*
Long. tota 7'25; alae, 3'2; caudae, 3'2.
Obs. Species precedenti et *M. mystacali*, Lafr., quasi intermedia; coloribus corporis superi huiue, inferiors vero illi approximans.

I am at present acquainted with about thirty-two species of the
fissirostral family *Bucconidae*, of which I believe the five just described to be hitherto unrecognised. Two of them are to be found in the Derby Museum at Liverpool; of two there are specimens in the British Museum: the only example of the *Malacoptila substriata* I have yet seen is in my own collection.

Four natural genera have been constituted in this family, *Bucco*, *Malacoptila*, *Monasa*, and *Chelidoptera*. For the more debile and passerine form of *Malacoptila*, represented by the *Bucco rubecula*, Spix, and *Lypornix ruficapilla*, Tschudi, I propose the new generic or subgeneric appellation *Nonnula*, type *N. rubecula* (Spix, Av. Bras. i. t. 39. fig. 1. p. 51). The members of this section are much inferior in size to the true *Malacoptila*.

2. **Descriptions of Nineteen New Species of Helicea, from the Collection of H. Cuming, Esq.**

By Dr. L. Pfeiffer.

1. **Helix ganoma**, Pfr. *H. testa aperta, perforata, turbinato-depressa, solida, sublaeavigata, spiraliter indistincte striata, vernicosa, fulva; spira convexo-conoidea, obtusa; sutura impressa, simplice; anfractibus 5, convexisulcis, ultimo inflato, medio subcarinato, infra angulum et circa perforationem late fusco-fasciato, non descendentem, basi distincte radiato-striato; apertura obliqua, subangulato-lunata, intus lactea; peristomate recto, obtuso, ilaceo-limbato, margine columellari superne breviter dilatato, repando.*

*Diam. maj. 51, min. 43, alt. 26 mill.*

*Hab. in insula Ceylon rarissima* (F. Layard).

2. **Helix concavospira**, Pfr. *H. testa subperforata, trochiformi, tenui, vix striatula, sub epidermide fugace, fulvescent alba; spira concavo-conica, apice acutiuscula; sutura submarginali; anfractibus 7, planniusculis, ultimo convessiore, medio acuté carinato, antice non descendentem, basi convexo; apertura parum obliqua, angulato-lunata, intus lactea; peristomate simplice, recto, margine columellari arcuato, ad perforationem brevissime reflexo.*

*Diam. maj. 13½, min. 12, alt. 11 mill.*

*Hab. in insula Ceylon (Thwaites).*

3. **Helix hyphasma**, Pfr. *H. testa vix perforata, trochiformi, tenui, confertim radiato-striata, sulcis remotoribus spiralibus quasi texta, pellucida, corneo-albida; spira subconcaeo-conica, acutiuscula; sutura marginata; anfractibus 7½, convexiusculis, ultimo convessiore, compresso-carinato, non descendentem, basi convexo, nitido, sublaeavigato; apertura obliqua, rhombo-lunari; peristomate simplice, recto, margine columellari restricte descendente, superne vix dilatato, reflexiusculo.*

*Diam. maj. 15, min. 13½, alt. 10½ mill.*

*Hab. in insula Ceylon (Thwaites).*
4. **Helix trifilosa**, Pfr. *H. testa perforata, depresse trochi-formi, tenui, radiato-striata, acute carinata, vix nitidula, pallide cerea; spira conoidea, apice hyalina, obtusiuscula; sutura marginata; anfractibus 6½, convexiusculis arcte convolutis, superne carinis 3 filiformibus munitis, ultimo non descendente, basi convexiore, nitido; apertura verticali, depressa, angulato-lunari; peristomate recto, acuto, marginibus remotis, superne brevissimo, basali leviter arcuato, columellari declivi, superne dilatato, reflexo.*

Diam. maj. 5½, min. 5, alt. 3½ mill.

*Hab. in insula Ceylon (Thwaites).*

5. **Helix politissima**, Pfr. *H. testa subaperte perforata, depressa, tenui, politissima, virenti-cornæa vel castanea; spira vix elevata, vertice subtili, obtuso; sutura profunda; anfractibus 4½, convexis, sensim accrescentibus, ultimo rotundato, non descendente; apertura parum obliqua, rotundato-lunari; peristomate simplice, recto, marginibus convergentibus, dextra antorsum subarcuato, columellari arcuatim descendentem, superne breviter reflexo.*

Diam. maj. 24, min. 20, alt. 11 mill.

*Hab. in insula Ceylon (Thwaites).*

6. **Helix Thwaitesi**, Pfr. *H. testa aperte perforata, convexo-depressa, striatula, nitida, cereo-hyalina; spira breviter conoidea, obtusiuscula; sutura profunda, submarginata; anfractibus 6½, convexis, arcte convolutis, ultimo non descendente, basi inflato; apertura verticali, lunari; peristomate recto, acuto, margine columellari arcuatim oblique descendentem, ad perforationem vix dilatato.*

Diam. maj. 5, min. 4½, alt. 3 mill.

*Hab. in insula Ceylon (Thwaites).*

7. **Helix subopaca**, Pfr. *H. testa semiobtecte perforata, conoideo-depressa, solidula, superne subarcuatum costulata, basi radiato-striata, subopaca, pallide rubello-cornea; spira breviter conoidea; sutura simplice, impressa; anfractibus 6½, vix convexiusculis, ultimo non descendente, basi planiusculo; apertura obliqua, lunari, intus margaritacea; peristomate simplice, recto, margine columellari declivi, subincrassato, ad perforationem triangulatim dilatato.*

Diam. maj. 17, min. 14½, alt. 9 mill.

*Hab. in insula Ceylon (Thwaites).*

8. **Helix partita**, Pfr. (=H. marcida, Bens.? non Shutt.) *H. testa perforata, convexo-depressa, solidula, superne confertisseme et inaequaliter subarcuatum costulata, sericina, fulvo-cornea; spira magis minusve elevata, vertice subtili, prominulo; sutura levi; anfractibus 5½, convexiusculis, sensim accrescentibus, ultimo vix latiore, non descendente, basi laeviusculo, subplanulato; apertura parum obliqua, lunari; peristomate simplice, recto,
marginibus vix convergentibus, columellari declivi, ad perforationem subincrassato, reflexiunculo.

Diam. maj. 13, min. 11 1/2, alt. 7 mill.

β. major, tenior, pallide cornea.

Diam. maj. 15, min. 13, alt. 7 2/3 mill.

Hab. in insula Ceylon (Layard, β. Thwaites).

Differt ab H. subopaca sculptura subtiliore, minus regulari, anfractu ultimo minus dilatato, &c.

9. Helix poveata, Pfr. H. testa sinistrorsa, subumbilicata, depressa, tenui, confertim subacute striata, et impressionibus radiantis sculpta, nitida, superne cinnamomea; spira brevissime conoidea, vertice castaneo, elevatiore; anfractibus 5 1/2, sensim accrescentibus, convexiusculis, ultimo albo-carinato, infra carinam subacutum cingulo castaneo notato, basi inflato, circa umbilicum angustissimum pallidior; apertura obliqua, late lunari; peristomate simplice, recto, margine columellari superne in laminam triangularem reflexo.

Diam. maj. 39, min. 32, alt. 17 mill.

Hab. in India.

10. Helix lacera, Pfr. H. testa imperforata, ovato-globosa, solida, vix striata, fusca, epidermide lacera, flavo-cinerea, strigata; spira semiglobosa, obtusa; sutura pallide filomarginata, superne plana, tendens profunda; anfractibus 4 1/2, superis vix convexiusculis, 2 ultimis rotundatis, ultimo antice subascendente; apertura obliqua, subtetragono-ovali, intus livida; peristomate breviter expanso et reflexo, margine columellari substricto, plano, dilatato, cum basali angulum formante.

Diam. maj. 33, min. 27 1/2, alt. 30 mill.

Hab. in insulis Philippines.

11. Helix purpurascens, Pfr. H. testa imperforata, subtrochiformi, solida, undique minute granulata, nitidula; spira convexo-conoidea, fulva, apice obtusiuscula; anfractibus 6, lente accrescentibus vix convexiusculis, ultimo convexiore, infra medium subcarinato et albo-cingulato, antice purpurascente, gibbo, breviter descendente, basi subplano; apertura perobliqua, triangulari-lunari, intus margaritacea; peristomate fusco, reflexo, marginibus callo crasso, nitido junctis, columellari substricto.

Diam. maj. 29, min. 25, alt. 15 1/2 mill.

Hab. in Korea.

12. Helix præstans, Pfr. H. testa imperforata, globosodepressa, tenuiscula, striata, superne castanea, flammulis luteis ornata, basi lutea, irregulariter castaneo-fuscata et tenuiata, epidermide parum nitida vestita; spira brevi, obtusa; anfractibus 4 1/2, convexiusculis, ultimo inflato, antice vix descendente; apertura obliqua, rotundato-lunari, intus margaritacea; peristomate livido, breviter expanso et reflexiusculo, mar-
ginibus vix conniventibus, callo junctis, columellari fornicatim dilatato.

Diam. maj. 53, min. 42, alt. 26 mill.
Hab. in provincia Oecana, Novae Granadae (Schlim).

13. **Helix microspira**, Pfr. *H. testa imperforata, depressogloboasa, solidula, levissime striata, nitida, fulvido-flava, pleurnque fascis 3 nigris (1 suturali, 1 mediana, 1 columellari) ornata; spira parva, convexa, obtusa, alba vel lilacea; sutura albo-marginata; anfractibus 4, rapide accrescentibus, convexiusculus, ultimo perinfato, non descendent; apertura diagonal, truncato-ovali, intus albida; peristomate late expanso et reflexusculo, albo, margine columellari plano, fere stricto, basi subdentato.

Diam. maj. 44, min. 34, alt. 31 mill.
Hab. in insulis Philippinis.

14. **Helix difficilis**, Pfr. *H. testa imperforata, globosodepressa, tenui, minutissime striata, nitida, pallide fulvescente, ad suturam albam castaneo-fasciata; spira parvula, semigloboasa; anfractibus 4, convexiusculus, ultimo infato, ad peripheriam et basin castaneo-fasciato, non descendent; apertura fere diagonal, tetragono-lunari, intus alba; peristomate sub-incrassato, breviter reflexo, margine columellari stricto, per-dilatato, plano, albo.

Diam. maj. 42, min. 34, alt. 26 mill.
Hab. in insulis Philippinis.

15. **Helix Charpentieri**, Pfr. *H. testa umbilicata, discoidea, solidula, oblique costato-striata, parum nitida, virenti-cornea; spira regular, plana; anfractibus 5, lente accrescentibus, modice convexis, ultimo rotundato, antice profunde descendent; umbilico lato, conico, subregulari; apertura fere horizontali, rotundato-lunari, intus albida, prorsus edentula; peristomate albo, undique late expanso et reflexo, marginibus convergentibus, infero ad insertionem attenuato.

Diam. maj. 27, min. 22, alt. 9 mill.
Hab. in insula Ceylon (F. Layard).

16. **Helix procera**, Pfr. *H. testa umbilicata, depressa, ambitu irregulari, subelliptica, solida, minute granulata, unicolore nigro-castanea; spira brevi, obtusa; anfractibus 5, convexinsculis, sensim accrescentibus, ultimo carinato, supra et infra carinam irregulariter angulos, prope suturam tumido, basi constricto, in umbilico mediocri profunde sulcato, antice perdeflexo; apertura perobliqua, subtetragono-rotundata, dente libero acuto parietis aperturae arcuata; peristomate crasso, reflexo, marginibus callo albo, sinuato junctis, supero arcuato, basali substricto, dente acuto, conico interposito.

Diam. maj. 62, min. 49, alt. 27 mill.
Hab. in provincia Antioquia, Columbiae (Schlim).
17. *Helix continua*, Pfr. *H. testa umbilicata*, lenticulari, carinata, solidula, striata et subgranulata, fusca, maculis albi- dis superne conspersa; spira vix elata, vertice subtili, obtuso; sutura fere lineari; anfractibus 5, planiusculus, ultimo acute carinato, antice inflato et deflexo, basi tumido, pone aperturam constricto, in umbilico mediocri leviter sulcato; apertura per- obliqua, lunari, dente libero, compresso paretis aperturalis coarctata; peristomate continuo, albo, calloso, expanso et re- flexo, margine basali lecissime arcuato.
Diam. maj. 41, min. 35, alt. 15 mill.
Hab. in provincia Ocana, Columbæ (Schlim).

Long. 65, diam. 29 mill.
Hab. in provincia Antioquia, Columbæ (Schlim).

Long. 46, diam. 16 mill.
Hab. in insula Kauai, Sandwich, rarissima (Newcomb).


(Mollusca, Pl. XXII. XXIII. XXIV.)

**Achatinella.**

It will be necessary to slightly change the definition of this genus, that several species clearly belonging under this head may not be excluded. It will be seen that several new typical species are herein described, one of which, *A. crassa*, makes a near approach to *Pari- tula*; but an examination of the animal proves conclusively that it belongs to the genus *Achatinella*. Several species are subumbili-
icated, and a number have a subreflected lip. The whorls of several species are not smooth; the beautiful little group of *A. Cumingii*, *A. Pfeifferii* and *A. plicata*, so far as discovered, form the striking exceptions. Several species are turreted, not conical. Further research, however, is necessary before a complete and satisfactory generic description can be given. The animal is provided with four tentacula, the superior ones clubbed at the end, elongated and occluded, the inferior ones short and slightly clavate; surface of the body covered with numerous granulations more or less strongly developed; respiratory foramen, in dextral shells, upon the right side at the angle of the outer lip with the body whorl, in sinistral shells, in a corresponding position on the left side; the foot is long, narrow, and tapering behind. They are always viviparous, and may be divided into arboreal and terrestrial species. The latter are found among leaves and decayed wood, among the crevices of rocks and in moist places, crawling upon the ground; the former are met with on the bodies, limbs and foliage of various trees: their most common resorts are on the Tutui, Ohio, and a few other species of forest trees, and on the Hau and Ti bushes.

The natives have never fed upon the animal as far as I can learn by careful inquiry, although the experiment has been made with almost every marine animal inhabiting the waters of these seas. It is a prevalent belief among the Hawaiians, that the arboreal species have the power of making a noise which they call singing; hence the name of *Pupu Kanioe*, by which they are known. The following is said to be their vesper hymn:

Kahului aku
Kahului mai
Kahului lei ula
Lei ako lea.

A free translation of which may be given as follows:

Turn away from my sight—
Nay—but turn to me now,
And a red wreath so bright,
I will weave for thy brow.

It scarcely is necessary to add, that the singing and the song are alike imaginary.

1. **Achatinella Gouldii** (Pl. XXII. fig. 1). *A. testa conico-

ovata; anfractibus 6, plano-convexis, ad longitudinem striatis,
supra marginatis; sutura subdepressa; apertura rotundata, ovata;
columella subcallosa; labro expanso et inferne subreflexo; colore
flavide albo, in anfractu 3io lineis fuscis, formae ziczac asperso,
anfr. 3 inferioribus lineamentis variis plus minusve numerosis

cinetis; apertura et labro flavescentibus.

Long. 17.90; lat. 9.90 poll.

Hab. Wailuku, Mani.

No. CCLVI.—Proceedings of the Zoological Society.
Shell conically ovate; whorls 6, flatly convex, margined above, but slightly; sutures slightly marked; aperture ovate; columella lightly callous; lip expanded and subreflected below; colour yellowish white, with zigzag lines of brown on the third whorl, and brown lineations more or less numerous encircling the three lower whorls; aperture and lip yellowish. Found on Tutu trees.

This rare and beautiful species I take pleasure in dedicating to Dr. A. A. Gould of Boston, who is well known as one of the most efficient and accurate natural historians in the United States.

2. Achatinella ovata (Pl. XXII. fig. 2, 2a). A. testa dextrorsa vel sinistrorsa, elongato-ovata; anfractibus 6, superne submarginalibus, rotundis; sutura moderate impressa; aperture subovata, margine nigro circundata; columella brevi, valde plicata, contorta; labro incrassato et subexpanso; testa colore niveo vel flavo-albido, cum vel sine vittis obsoletis subfuscis.

Long. $\frac{18}{30}$; lat. $\frac{10}{30}$ poll.

Hab. Kahana, Koolan, Oahu.

Shell dextral or sinistral, elongately ovate; whorls 6, slightly margined above, rounded; suture moderately impressed; aperture subovate, entirely margined with black; columella short, plicate, strong and twisted; lip thickened and slightly expanded; colour of shell pure white or yellowish white, with or without obsolete brownish bands above.

A very beautiful species, distinguished by its glossy black lip contrasting finely with the white of the shell.

3. Achatinella rufa (Pl. XXII. fig. 3). A. testa conico-ovata, solida; anfractibus 6, plano-convexis, cum striis decussatis; columella fortiter callosa; sutura simplici, subimpressa; umbilico exiguo aperto; labro expanso, inferne subreflexo; colore fusco rubro, epidermide e fusco et albo mixta obtecto, albo in anfractibus mediis in lineis exiguis ad formam ziczac qua in anfr. ultimo in uniusmodi umbræ colorem fusco-cinerem evanescent, disposito; anfractus ultimi dimidio inferiori zona lata alba cineto.

Long. $\frac{18}{30}$; lat. $\frac{10}{30}$ poll.

Hab. Molokai.

Shell conically ovate, solid; 6 whorls, flatly convex, with decussating striae; columella strongly callous; suture plain, moderately impressed; umbilicus small and open; lip expanded, and subreflected below; ground colour brownish red, covered with an epidermis of a mottled brown and white, the latter arranged on the central whorls in fine zigzag markings, which are lost on the last whorl in a uniform greyish umber. The inferior half of the last whorl (usually) encircled by a broad white band.

This is a very rare species, the numbers found scarcely furnishing the materials for a description to fix or determine the permanent characters.
4. **Achatinella fulgens.** *A. testa elongato-conica, polita, fulgente; anfractibus 6, plano-convexis; sutura subimpressa; aperture ovata; columella brevi, tuberculata; labro simplici, interne costato; colore testae superbe castaneo, cum fascia suturali lata, centrum anfr. ventral. transeunte; apice columella albis.*

Long. $\frac{15}{20}$; lat. $\frac{8}{20}$ poll.  

_Hab._ Niu, Oahu.

Shell elongately conic, polished, shining; whorls 6, flatly convex; suture slightly impressed; aperture ovate; columella short, tuberculated; lip simple, ribbed within; colour rich chestnut-brown, with a broad white sutural fascia cutting the centre of the last whorl; apex and columella white.

Var. _α._ White, with broad chestnut bands.

Var. _β._ Chestnut-coloured above, yellowish below, with two black and one white band; the columella dark brown; of large size, measuring $\frac{2}{3}$ths by $\frac{1}{2}$ths of an inch.

This last variety may upon further examination prove to be a distinct species. The locality of this last is Makika Valley, "Mauka roa," or far back in the mountain range. An examination of the respective animals will resolve the doubt.

5. **Achatinella splendida** (Pl. XXII. fig. 4). *A. testa sinistrorsa vel dextrorsa, solida; striis delicate decussatis; anfractibus 6, anfractu ultimo subinflato; sutura modice depressa, marginata; aperture ovata; labro expanso; columella brevi, lata et contorta; anfractibus duobus superioribus albido et castaneo tessellatis, ceteris anfr. albis nitidis, lineis vittisque multis transversalibus, castaneis ornato; linearum et vittarum margine superiore integro, inferiori irregulariter serrato.*

Long. $\frac{20}{20}$; lat. $\frac{11}{20}$ poll.  

_Hab._ Wailuku, Mani, on Tutui trees.

Shell sinistral or dextral, solid; whorls 6, with finely decussating striae; body whorl somewhat inflated; suture moderately impressed, margined below; aperture ovate; lip expanded; columella short, broad and twisted; two upper whorls tessellated with chestnut and white, with numerous chestnut-coloured transverse lines and fillets on the other whorls, traced on a polished white ground; markings correctly lined superiorly, and irregularly serrated inferiorly.

Var. _α._ Bright chestnut banded with white, not serrated.

Var. _β._ White, with numerous black transverse bands.

6. **Achatinella Redfieldi** (Pl. XXII. fig. 5). *A. testa elongato-conica, sinistrorsa; anfractibus 6, supra marginatis, ad longitudinem striatis; sutura bene impressa; aperture subovata; columella fusca, plano-contorta; labro subreflexo, columella concolore; colore albido-flavo, infra in castaneum fuscum transeunte, simplici, vel fasciis fasciis, obscure undulatis, in tertio solum anfractu varie striato; fascia alba suturas permeante.*

Long. $\frac{20}{20}$; lat. $\frac{9}{20}$ poll.  

_Hab._ Molokai and E. Mani.
Shell conically elongate, sinistral; whorls 6, margined above, striated longitudinally; suture well impressed; aperture subovate; columella brown, flat and twisted; lip subreflected, of the colour of the columella; colour of shell light fawn passing into deep chestnut, paler above, plain or variously marked with brown bands, and obscure undulations on the third whorl only: a white band traverses the sutures.

This species belongs to the native group of "Pupn Caniohi," or *singing snails*, and it is with pleasure that we dedicate it to J. H. Redfield, Esq., of New York. It is not an abundant species. Found on Tutui, Ohia and Ti trees.

7. **Achatinella nivosa** (Pl. XXII. fig. 6). *A. testa dextrorsa,* conica; anfractibus 6, rotundis, supra marginatis; aperture subovata; columella brevi, infra in plicam flexuosam contorta; labro simplici; apice obtuso; colore supra subfuscus, infra albo, striis interruptis, longitudinalibus, viridibus vel subfuscis pulchre ornato, cum vel sine vittis nonnullis transversis, rubris vel fuscis; columella rosea vel albida.

**Long.** 14\(\frac{1}{20}\); **lat.** 8\(\frac{7}{20}\) poll.

**Hab.** Niu, Oahu.

Shell dextral, conical; whorls 6, rounded, margined above; suture moderate; aperture subovate; columella short, twisted into a flexuous plait inferiorly; lip simple; apex of shell obtuse; colour above brownish, below pure white, ornamented with beautiful longitudinal green or brownish interrupted stripes, with or without one or more pink-coloured or brown transverse bands; columella pink or white.

This beautiful species belongs to the same group with *A. abbreviata* and *A. bacea*.

8. **Achatinella melanostoma** (Pl. XXII. fig. 7). *A. testa dextrorsa, solida, polita, conica; anfractibus 6, plano-convexis, supra submarginatis; sutura moderate impressa, nigro-vittata; aperture subovata; labro nigro, interne incrassato; columella brevi, ferruginea, abrupte in plicam vel tuberositatem fortatem terminante; colore flavo vel umbroso, cum vel sine lineis transversis fuscis.*

**Long.** 14\(\frac{1}{20}\); **lat.** 7\(\frac{1}{20}\) poll.

**Hab.** Ewa, Oahu.

Shell dextral, polished, solid, conical; whorls 6, plano-convex, slightly margined above; suture moderate, accompanied by a black revolving band; aperture subovate; lip black, thickened within; columella short, brownish red, terminating abruptly in a strong plait or tuberosity; colour yellowish or umber, with or without transverse brown lines.

9. **Achatinella cestus** (Pl. XXII. fig. 8). *A. testa solida, ventricosa, sinistrorsa vel dextrorsa, apice acuminato; anfractibus 6, rotundis, superne marginatis, penultimo tumido; aperture*
subovata; columella brevi, valde tuberculata; labro subexpanso, interne incrassato; colore apicis negro, anfr. secundi et tertii al-bido, 3 reliquorum albo, subflavo, negro vel diverso, cum cingulo albo, suturas transeunte et anfr. ventrale infra centrum se-cante, cum vel sine fascia latiori subjacente; interdum maculis vel tesseris albis et nigris aut lineis undulantibus, longitudinalibus eorundem colorum; columella castanea; labro castaneo, albo in-sperso.

Long. 14 1/20; lat. 8 1/20 poll.

Hab. Palolo, Oahu.

Shell solid, ventricose, sinistral or dextral, pointed at the summit; whorls 6, rounded, cored above, last one tumid; aperture subovate; columella short, strongly tuberculate; lip slightly expanded, thickened within; colour of tip black, second and third whorls white, three last white, yellowish, or black or mixed, with a white cincture traversing the sutures and cutting the body whorl below the centre, with or without a broader band below, sometimes with blotches or tessellations of black and white or longitudinal undulating lines of the same colours; columella chestnut; lip same colour, interrupted with white.

A fine shell, approaching A. similans of Reeve, which it resembles in form, but from which it differs strikingly in its markings.

10. Achatinella Swiftii (Pl. XXII. fig. 9, 9a). A. testa ventricosa, apice acuminato, polita, nitente; anfractibus 6, su-perne subrotundis, ultimo valde inflato, superne conspicue margi-nato; labro purpureo-roseo, crasso et subinflato; apertura ovata; columella brevi, in tuberculam purpureo-roseum terminante; anfr. 3 primis albis, inferioribus cum lineis numerosis longitu-dinalibus delicatissimis nigris et albis signatis, testa colore cinereum impertinentibus; lineis exquis albidis obsoletis trans-verse testam transeuntibus; anfr. 2 ultimis linea suturali alba signatis.

Long. 14 1/20; lat. 10 1/20 poll.

Hab. District of Ewa.

Shell ventricose, pointed at the apex, smooth, polished, shining; whorls 6, slightly rounded above, the last strongly inflated, distinctly margined above; lip purplish rose, thick and slightly subreflected; aperture ovate; columella short, terminating in a tubercle of the colour of the lip; three first whorls white, the lower with very fine and numerous markings of black and white arranged longitudinally to the shell, giving it a greyish aspect: fine obsolete white lines traverse the shell transversely, and a white sutural line is traced on the last two whorls.

Var. α. With a broad fascia cutting the body whorl.

Var. β. Yellowish ground colour, with few markings.

This species approaches A. turgida, but is distinct in appearance, locality and habits.
11. Achatinella turgida (Pl. XXII. fig. 10, 10 a). A. testa ventricosa, apice acuminato, sinistrorsa vel dextrorsa, leviter, polita; anfr. 4 graduatim, 2 ultimis rapide increscentibus; sutura subimpressa, infra depressione lineari; apertura subovata; columella brevi, in tuberculum conicum, in aperturam projicientem terminante; labro exteriori simplici, interne increscato, sicut tuberculo subroseo vel fusco tincto; faucibus albis; colore variante, albo, flavo vel nigro, lineis ziczac longitudinalibus, vittis transversis vel maculis ornato.

Long. $\frac{14}{20}$; lat. $\frac{11}{20}$ poll.

Hab. Ewa, Oahu.

Shell ventricose, pointed at the apex, sinistral or dextral, smooth, polished, gradually enlarging for four turns and then very rapidly, the last two forming most of the shell; suture slightly impressed, beneath which revolves a linear depression; apertura subovata; columella short, terminating in a strong conical tubercle projecting into the aperture; outer lip simple, thickened within, slightly tinged with pink or brown; tubercle the same; fauces white; colouring extremely various, ground white, yellow or black, with (or without) longitudinal zigzag lines, transverse bands or blotches covering the surface.

Approaches the A. tristis of Férrussac found at Waianoe.

12. Achatinella cylindrica (Pl. XXII. fig. 11). A. testa dextrorsa, elongato-cylindrica, pyramidis instar ad apicem decurrente; anfractibus 7, subrotundis; apertura oblongo-ovata; columella in dentem flexuosum terminante; testae superficie ad longitudinalia fortiter striata, subovata, vittis numerosis fuscis, angustis circumdata.

Long. $\frac{16}{20}$; lat. $\frac{6}{20}$ poll.

Hab. Waianoe, Oahu.

Shell dextral, elongately cylindrical, tapering to a point at the summit; whorls 7, slightly rounded; suture moderate; apertura oblong-ovata; columella terminating in a flexuous tooth; surface of shell longitudinally strongly striate, of a light horn colour, encircled by numerous narrow brown bands.

This species, with the following, are found, like their nearest analogues, on the ground; viz. A. porphyrea and spirizona, which latter species, by almost insensible gradations, passes into the A. turritella, a shell apparently of quite a different type.

13. Achatinella casta (Pl. XXII. fig. 12). A. testa conico-elongata, solida, polita, nitida, dextrorsa vel sinistrorsa; anfractibus 6, rotundis, supra marginatis; apertura subovata, breviuscula; labro simplici, interne increscato; columella brevi, cum dente fortiter plicato; colore albido vel luteo, vittis transversis variis nigris, fuscis, roseis vel albidis diverse dispositis.

Long. $\frac{13}{20}$; lat. $\frac{61}{20}$ poll.

Hab. Ewa, Oahu.
Shell conically elongate, solid, polished, shining, dextral or sinistral; whorls 6, rounded, margined above; aperture subovate, rather small; lip simple, thickened within; columella short, with a strong plaited brownish tooth; colour white or yellow, with extremely variable transverse bands of black, brown, pink or white, variously arranged.

This species is readily distinguished from any yet described. Its northern limit is the valley below Mouna Rua, and half a dozen ravines, south, in the district of Ewa.

14. Achatinella intermedia (Pl. XXII. fig. 13). A. testa dextrorso, subcylindrica; anfractibus 7, rotundis; sutura profunda; apertura parva, subovata; columella plica flexuosa exigua ornata; labro acuto; striis longitudinalibus, numerosis, bene expressis, colore uniusmodi betico, versus suturas pallescente, interne subcaeruleo vel cinereo; columella caeruleo-albida.

Long. 14; lat. 7 poll.

Hab. Waianoe, Oahu.

Shell dextral, subcylindrical; whorls 7, rounded; suture rather deep; aperture small, subovate; columella with a small flexuous plait; lip acute; striae numerous, well-developed, and longitudinal to the shell; colour uniform dark brown, usually lighter at the sutures, interiorly of a bluish white or slate colour; columella bluish white.

This shell is intermediate between A. cylindrica and the more cylindrical forms of A. spirizona.

15. Achatinella violacea (Pl. XXII. fig. 14). A. testa dextrorsa, ovato-oblonga, solida; anfractibus convexis, ad longitudinalibus fortiter striatis; sutura simplici et valde depressa; apertura ovata; columella brevi, in plicam albam, contortam desinentem; labio simplici; colore passim violaceo.

Long. 21; lat. 11 poll.

Hab. Molokai.

Shell dextral, ovately-oblong, solid; suture plain and deeply impressed; aperture ovate; columella short, terminating in a white twisted plait; lip simple; colour violaceous suffused with white.

16. Achatinella sanguinea (Pl.XXII. fig. 15). A. testa acuminato-oblonga; anfractibus 7, infra convexis, supra plano-convexis; sutura distincte expressa; apertura subovata; columella dente plicato, contorto ornata; labro simplici; colore testae roseo in sanguineum transeuntce, lineationibus nigris, cationatione et signa ziczac in anfr. 3 inferioribus formantibus, dense obtecto; testa superne epidermide denudata; apice mammillato nigro.

Long. 12; lat. 8 poll.

Hab. Lehui, Oahu.

Shell acuminately oblong; whorls 7, convex below, plano-convex above; suture distinctly marked; aperture subovate; columella
armed with a twisted plicate tooth; lip simple; colour of shell from roseate to sanguineous, thickly covered with black lineations, forming chain-work and zigzag markings on the three lower whorls; denuded of epidermis above; apex mammillate and black.

17. Achatinella porphyrea (Pl. XXII. fig. 16). _A. testa solidiuscula, acuminato-conica; anfractibus 7, superne subcarinatus, non marginatis, plano-convexis; sutura valde impressa; apertura subovata, infra contracta; labro tenui; columella brevi, in pli- cam contortam terminante; epidermide tenui et nigra; striis longitudinalibus, fortibus; colore sub epidermide plumbeo, lineis numerosis fuscis, transversis testam circumambientibus.

Long. 15½; lat. 8½ poll.

_Hab._ Waianoe, Oahu.

Shell rather solid, acuminately conical; whorls 7, subcarinated above, plano-convex; suture deeply impressed; aperture subovate, contracted below; lip thin; columella short, terminating in a twisted plait; epidermis thin and black; striae longitudinal and strong; colour beneath epidermis of a leaden hue, with numerous transverse brown lines encircling the shell.

This species belongs to the same group with _A. spirízona_, Fér., _A. cylíndrica_ and _A. intermedia_, Nob., but which are quite distinct in specific characters. They are all terrestrial, not arboreal species.

18. Achatinella gigantea (Pl. XXII. fig. 17). _A. testa dextrorsa, elongato-ovata, apice acuminato; anfractibus 7, fortiter striatis, anfracta ultimo superne, penultimo inferne subcarinato; apertura ovali; columella subarcuata, interne in levem callum terminante, externe continuata, cum labro externo juncta; labro interno callo crasso, striato; labro externo plano; sutura profunda; striis longitudinalibus; colore externe subplumbeo et interne sublilaceo.

Long. 15½; lat. 12½ poll.

_Hab._ Hale a Ka la, Mani.

Shell dextral, elongate-ovate, apex pointed; whorls 7, strongly striate, slightly carinated superiorly on the last whorl, inferiorly on the penultimate; columella slightly arched, terminating internally in a slight callosity, externally continued to unite with the outer lip; columellar lip with a strong deposit spread over its surface; outer lip simple; suture deep; striae longitudinal; colour light plumbeous externally, internally pale lilac.

This species, the largest yet described, belongs to the same group with _A. violacea_, from Molokai, and _A. Baldwinii_, from Ranai, all of which are described in this communication.

19. Achatinella subvirens (Pl. XXII. fig. 18). _A. testa conico-ovata; anfractibus 6, rotundis et superne marginatis; sutura distincta, albida; apertura ovata, infra expansa; labro incras-.
sato; columella brevi, plana et oblique truncata; colore epidermidis subvirente, colore pallidiore ad longitudinem intersperso, columellae, labri et aperturae albo.

Long. $15\frac{1}{25}$; lat. $7\frac{7}{25}$ poll.

Hab. Niu, Oahu.

Shell conically ovate; whorls 6, rounded and margined above; suture distinct and lined with white; aperture ovate, expanding below; lip thickened; columella short, flat and obliquely truncated; colour of epidermis light green, interspersed with a lighter shade arranged longitudinally; columella, lip and aperture white.

Var. $\alpha$. Pure white.

Var. $\beta$. Brown or chestnut replacing the green colour.

Through var. $\alpha$ this species approaches a variety of $A. \text{rutila}$, and through var. $\beta$, $A. \text{decipiens}$. It is readily distinguished from the first by its smaller size, greater solidity, stronger striæ and more elongate form; from the latter by its less acuminate form, white suture, less solidity, and their widely-separated localities.

20. Achatinella ampla (Pl. XXII. fig. 19). $A. \text{testa dextrorsa, conico-ovata, polita; anfractibus 5, rotundis; sutura simplici, vitta nigra fasciolata; apertura magna, albida; labro externo simplici, acuto, interne incrassato; columella brevi, alba vel rosea; epidermide supra subviridi vel olivacea, in anfractu ultimo subfusca.}$

Long. $14\frac{14}{20}$; lat. $10\frac{10}{20}$ poll.

Hab. Kolau, Oahu.

Shell dextral, conically ovate, polished; whorls 5, rounded; suture simple, banded with a black stripe; aperture large and white; outer lip simple, acute, thickened within; columella short, white or roseate, terminating in a twisted plait; apex obtuse, roseate; epidermis light green or olive above, of a deeper colour on the last whorl.

21. Achatinella Adamsii (Pl. XXII. fig. 20). $A. \text{testa dextrorsa, conico-acuminata; anfractibus 6, cum striis transversalibus exiguis, longitudinalibus fortibus; sutura valde depressa; labro expanso; columella in plicam solidam, abrupte tortam desinente; testae lamina interna coloris plumbei, externa obscuri castanei, irregulariter albido punctata et striata.}$

Long. $18\frac{18}{20}$; lat. $9\frac{9}{20}$ poll.

Hab. E. Mani, at the root of ferns.

Shell dextral, conically acuminate, whorls 6, finely striated transversely, roughly striated longitudinally; suture deeply impressed; lip expanded; columella terminating in a strong abruptly twisted plait; interior of shell of a leaden blue colour, exterior dark chestnut, irregularly mottled and striped with white.

This species makes the nearest approach in form to $A. \text{perdix}$ of Reeve, an immature specimen of which is figured in his Monograph, fig. 43. The locality of this latter species is the almost inaccessible
ravines of the mountainous districts around Lahania, W. Mani. The
A. perdix is arboreal, and the A. Adamsii terrestrial in its habits.
The species is dedicated to Professor C. B. Adams, of Amherst
College, Mass.

22. Achatinella rutila (Pl. XXII. fig. 21). A. testa ovata,
conica; anfractibus 6, rotundis, ultimo superne marginato; sutura
bene impressa; apertura subquadrate; labro expanso, subreflexo,
interne valde incassato; columella brevi, in plicam robustam,
contortam terminante; colore substramino pallido, olivaceo vel
fusco; labro albo vel subroseo.
Long. \( \frac{17}{20} \); lat. \( \frac{9}{20} \) poll.

Hab. Niu, Oahu.

Shell ovately conic; whorls 6, rounded, the last margined above;
suture well-marked; aperture subquadrate; lip expanded, subre-
flexed, strongly thickened within; columella short, terminating in a
strong twisted plait; colour a light straw, olive or brown.

23. Achatinella rugosa (Pl. XXII. fig. 22, 22a). A. testa dextrorsa,
conica, fulgente; anfractibus 6, rotundis, supra marginatis;
sutura bene impressa; labro expanso, versus marginem ferrugineo
et incassato; columella albida, brevi, plicata, callo forti supra
umbilicum expanso; apertura subrhomboidali; striis numerosis lon-
gitudinalibus et in anfractu ultimo rugosis; colore epidermidis pras-
inco interdum umbrosi instar pallidi vel fuscii, coloribus simul cum
striis alternantibus cum vel sine vittis transversis subviridibus.
Long. \( \frac{14}{20} \); lat. \( \frac{8}{20} \) poll.

Hab. Ewa, Oahu.

Shell dextral, conical, glossy; whorls 6, rounded, margined above;
suture well-pressed; lip expanded, of a reddish brown at the mar-
gin, thickened near the edge; columella white, short, twisted, and
with a strong callus spread over the umbilicus; aperture subrhom-
boidal; striæ longitudinal, numerous, and on the last whorl rugose;
colour of epidermis of a deep green, a light or dark umber, some-
times alternating and arranged with the striæ, with or without pale
green transverse lines.

24. Achatinella multilineata (Pl. XXII. fig. 23). A. testa
dextrorsa vel sinistrorsa, solida, conico-longata; anfractibus 6, ro-
tundis, supra marginatis; labro infra expanso et subreflexo, supra
acuto et interne a duaeto; columella brevi robusta, subplicata cum
callo umbilicum obtegente et pene claudente; apertura oblongo-
ovata; colore columelle, labri et suturae albo, interdum flavido in-
terstincto; testa alba, cum vel sine fasciis et lineis numerosis trans-
versis, ferrugineis.
Long. \( \frac{10}{20} \); lat. \( \frac{10}{20} \) poll.

Hab. Kolau poco, Oahu.

Shell dextral or sinistral, solid, elongately conical, whorls 6,
rounded, margined above; lip expanded below and slightly subre-
flected, above acute and thickened within; columella short, stout, slightly twisted, with a callus spread over and nearly closing the umbilicus; aperture oblong-ovate; colour of columella, lip and suture white, sometimes tinged with yellow; shell white, with or without numerous transverse lines of a brown or black colour.

This species makes a near approach to *A. mustelina* of Mighels, but is more elongate in form, with the lineations much stronger, and never passes into the variety of *mustelina* with the depressed spire and obese body whorl. The locality is also different, which is always worthy of particular remark in examining the shells of this genus.

25. *Achatinella glabra* (Pl. XXII. fig. 25). *A. testa conico-ovata, fulgente; anfractibus 6, interdum inflatis, supra marginitatis; sutura bene expressa; apertura ovata; labro subreflexo, e nigro fusco margine nigro, interne incrasato; columella brevi, robusta, expansa, in plicam contortam desinente; colore argillaco-caruleo vel plumbeo, pallidiore in anfractum parte superiorem, interdum fascis transversis albidis vel castaneis.*

Long. 9\(\frac{20}{20}\); lat. 17\(\frac{17}{20}\) poll.

Hab. Kolau poko.

Shell conically ovate, glossy; whorls 6, somewhat inflated, margined above; suture well-marked; aperture ovate; lip slightly sub-reflected, dark brown edged with black, thickened within; columella short, robust, expanded, and terminating in a twisted plait; colour bluish slate, much lighter on the upper portion of the whorls; sometimes transversely banded with white or chestnut.

26. *Achatinella tessellata* (Pl. XXIII. fig. 26). *A. testa sinistrorsa, oblongo-ovata, solida; anfractibus 6, convexis, ultimo paulum inflato, superficie minutissime decussata; colore albido-flavescente, vittis transversis nigris vel castaneis diverse striato, aut non; anfractibus superioribus semper nigro et albido tessellatis; apertura alba vel rosea, ovata, infra effusa; columella brevi et late callosa.*

Long. 21\(\frac{20}{20}\); lat. 12\(\frac{12}{20}\) poll.

Hab. Molokai.

Shell sinistral, oblong-ovate, solid; whorls 6, convex, the last somewhat inflated; white or fawn-coloured ground, very finely shagreened, plain, or variously striped with transverse black or chestnut bands; the upper whorls always tessellated black and white; aperture white or roseate, ovate, effuse below; columella short and broadly callous; lip expanded, thickened within and semireflected; animal light grey, tentacles black, mantle slate-colour.

Found at Kalai on Tutui trees, and on the broad leaf of the Ti. Has some resemblance to *virgulata*, Mighels, but the tessellated top at once distinguishes it.

27. *Achatinella sordida* (Pl. XXIII. fig. 27). *A. testa elongato-conica, solida; anfractibus 7, subrotundis, supra marginatis; apertura parva, leviter contracta; labro infra subreflexo, supra acuto; interne incrasato; columella brevi, subplicata, cum callo
expanso, umbilicum parvum, parum profundum partim obtegente; colore variabili, albido, striis vel vittis fuscis et nigris transversis diverse lineato.

Long. \(\frac{18}{20}\); lat. \(\frac{9}{20}\) poll.

**Hab.** Lettui, Oahu.

Shell elongately conical, solid; whorls 7, slightly rounded, margined above; aperture small, somewhat contracted; lip subreflected below, acute above, thickened within; columella short, slightly twisted, with an expanded callus partially covering a shallow small umbilicus; colour variable; ground white variously banded and striped transversely with brown or black.

This species, like the *A. multilinata*, is drawn from the group of *A. mustelina*, the variations in character, with different localities and a peculiarity of habits in each, demanding their separation.

28. *Achatinella fumosa* (Pl. XXIII. fig. 28). A. testa cylin-
drica, ovata, perobscure cornea, tenui, nitente; anfractibus 7, plano-convexis; sutura subimpressa; striis longitudinalibus, bene expressis, numerosis; apertura ovata; labro simplici, albido-fimbriato; columella brevi cum dente lamellari albo, vitta fusco-nigra cum altera rubicunda subjacente anfractus infra suturas permeante.

Long. \(\frac{12}{20}\); lat. \(\frac{5}{20}\) poll.

**Hab.** Manoa, Oahu.

Shell cylindrically ovate, very dark, corneous, thin, shining; whorls 7, plano-convex; suture slightly impressed; striae numerous, longitudinal, and strongly developed; aperture ovate; lip simple, edged with white; columella short, with a lamelliform white tooth. A dark brown band, accompanied by an obsolete reddish one below, traverses the whorls beneath the suture.

29. *Achatinella lineolata* (Pl. XXIII. fig. 29). A. testa elon-
gata, turriformi; anfractibus 6, ventricosis, nitidis; sutura simplici; apertura ovata; columella dente obliquo, plicato munita; co-
lore epidermis luteolo, in anfr. ultimo lineis ziczac brevibus coloris umbrosi ad longitudinem dense signato.

Long. \(\frac{10}{20}\); lat. \(\frac{43}{20}\) poll.

**Hab.** Hawaii.

Shell elongate, turreted; whorls 6, rounded, polished, shining; suture simple; aperture ovate; columella with an oblique plaited tooth; colour of epidermis yellowish; on the last whorl thickly lined longitudinally withumber-coloured markings.

The large island of Hawaii has yielded to our explorations but three species, all of which are herein described.

30. *Achatinella nitida* (Pl. XXIII. fig. 30). A. testa tenui, 
lavi, subcornea, nitida, pellucida, ovato-conica; anfractibus 6, ven-
tricosis, supra marginatis; apertura ovata; labro subcrasso; colu-
mella in pliculam obliquam, contortam, albidam desinente.

Long. \(\frac{8}{20}\); lat. \(\frac{4}{20}\) poll.

**Hab.** E. Mani.
Shell light corneous, shining, pellucid, conical, thin; whorls 6, rounded; aperture ovate; lip slightly thickened; columella terminating in a twisted oblique white plait.

31. *Achatinella crassilabrum* (Pl. XXIII. fig. 31). *A. testa dextrorsa, conico-ovata, apice acuminato, infra ventricosa, solidiori; anfractibus 6, rotundis; apertura ovata; labro intus valde incrassato; columella brevi, in plicam brevem, obliquam terminante; striis longitudinalibus fortibus; superficie anfractus ultimi saepe cicatricibus notata; colore anfractus ultimi subflavo-albido, anfractuum reliquorum fusco vel nigro.

Long. $\frac{12}{20}$; lat. $\frac{5}{20}$ poll.

*Hab.* Waianoe, Oahu.

Shell conically ovate, pointed at the apex, ventricose below, rather solid; whorls 6, rounded; aperture ovate; lip very much thickened within; columella short, terminating in a strong oblique plait; longitudinal striae strong, surface of the last whorl often marked with cicatrices; body whorl yellowish white, other whorls dark brown or black.

32. *Achatinella cornea* (Pl. XXIII. fig. 32). *A. testa inaequali, acuta, conica, apice acuminato, tenui, corneo; striis longitudinalibus minitis; anfractibus 7, rotundis, ultimo inflato; apertura subovata; labro tenui, translucido; columella recta, alba et dente plicato, transverso munita; colore testae ubique fusco-corneo, columellae et dentis albido.

Long. $\frac{10}{20}$; lat. $\frac{5}{20}$ poll.

*Hab.* ?

Shell irregularly acutely conical; the apex pointed; last whorl inflated; thin, corneous, with minute longitudinal striae; whorls 7, rounded; aperture subovate; lip thin, translucent; columella straight, white and armed with a transverse plaited tooth; colour uniform dark horn; columella and tooth white.

33. *Achatinella labiata* (Pl. XXIII. fig. 33). *A. testa elongato-conica; anfractibus 7, fere planis, supra paullo marginatis; sutura modice impressa; apertura elongato-ovata; labro incrassato, albido, cum callo interno centrali; columella brevi, dente proje- ciente, valde plicato munita; colore externe corneo-pallido.

Long. $\frac{12}{20}$; lat. $\frac{4}{20}$ poll.

*Hab.* Lehui, Oahu.

Shell elongately conical; whorls 7, flattened, slightly margined above; aperture elongately ovate; lip thickened, white, with a central internal callus; columella short, with a strong plaited projecting tooth; colour of epidermis light corneous.

Var. a. With the lower third of the last whorl dark brown.

This species forms a new type of the genus; characterized by the white auricular-formed aperture. It is terrestrial, and not arboreal in its habits.
34. Achatinella vitrea (Pl. XXIII. fig. 34). *A. testa conico-ovata, tenui, nitida, pellucida; anfractibus 7, rotundis, supra, prope suturam, obscure marginatis; striis fortibus prope suturam, distinctis in testa; apertura elongata, subovata; labro simplici, interne subincrassato, infra contracto; columella brevissima, in plicam contortam terminante; colore corneo, speciem luteam vel roseam accipiente; sutura vitta lata, nigra signata.

Long. \( \frac{10}{20} \); lat. \( \frac{5}{20} \) poll.

*Hab.* Manoa, Oahu.

Shell conically ovate, thin, shining, diaphanous; whorls 7, rounded, indistinctly margined above, very near the suture; striæ strong near the suture, distinct over the shell; aperture elongately subovate; lip simple, slightly thickened within, contracted below; columella very short, terminating in a twisted plait; colour corneous, with a yellowish or pinkish tinge; suture marked by a broad black band.

This is an extremely beautiful species. Its locality is near the summit of the mountain ridge dividing Manoa from Palolo valley.

35. Achatinella affinis (Pl. XXIII. fig. 35). *A. testa acute conica; anfractibus 6, rotundis, non marginatis; sutura bene impressa; apertura ovata; labro tenui; columella dente lamellari; albo, plicato munita; colore albo, roseo vel rubro-flavo cum vestigiiis epidermidis fusco-nigræ; anfractu ultimo superioribus pallidiore.*

Long. \( \frac{12}{20} \); lat. \( \frac{53}{20} \) poll.

*Hab.* Kula, E. Mani.

Shell acutely conical; whorls 6, rounded, not margined; suture well-impressed; aperture ovate; lip thin; columella with a white lamellar twisted tooth; colour white, roseate or salmon, with traces of a dark brown epidermis; last whorl lighter-coloured than the upper ones.

This species belongs to a group of which the following are associated, viz. *A. modesta*, Adams, from Molokai, *A. mucronata*, *A. pu-poidea*, *A. Mastersi*, *A. assimilis* and *A. flavia*. To the same group may be referred *A. rubens*, Gould, *A. decepta*, Adams, and *A. nubilosa*, Mighels.

36. Achatinella acuta (Pl. XXIII. fig. 36). *A. testa acute tur-riformi, sinistrorsa; anfractibus 7, ventricosis; sutura profunda; columella plicata; apertura ovata; labro simplici; striis numerosis longitudinalibus et bene notatis; colore epidermidis fusco.*

Long. \( \frac{10}{20} \); lat. \( \frac{44}{20} \) poll.

*Hab.* Lehui, Oahu.

Shell acutely turreted, sinistral; whorls 7, rounded; suture deep; striæ numerous, longitudinal and well-defined; aperture ovate; lip simple; columella plicate; colour of epidermis brown.

But a solitary specimen of this shell has been found; but its characters are clearly marked, and no described species resembles it in form.

37. Achatinella polita (Pl. XXIII. fig. 37). *A. testa dextrorsa, nitida; anfractibus 5, convexis, supra marginatis; sutura bene
definita; apertura oblongo-ovata; columella fortiter tuberculata, extremitate purpurea; labro simplici; colore luteo; apertura interne alba vel nigro-purpurea; anfr. superioribus partim notis coloris umbrosi obscure signatis; sutura cum vel sine vitta nigra.

Long. \( \frac{12}{25} \); lat. \( \frac{64}{25} \) poll.

_Hab._ Molokai.

Shell dextral, polished; whorls 5, convex, margined above; suture well-defined; aperture oblong-ovate; columella strongly tuberculate, with purple tip; lip simple; colour yellow, upper whors tinged with umber; sutures with or without a black band; aperture within white or dark purple.

This species shows two varieties with and without the sutural band. The aperture of the first is purple within, of the second a pure white.

38. _Achatinella soror_ (Pl. XXIII. fig. 38).  _A._ testa sinistrosa, conica, turritiformi; anfractibus 7, rotundis; sutura valde impressa; apertura subovata, parva; labro simplici; columella brevissima, in dentem contortum, plicatum terminante; epidermide tenui, supra fusco-cornea et infra pallido-cornea.

Long. \( \frac{12}{25} \); lat. \( \frac{5}{20} \) poll.

_Hab._ Mani.

Shell sinistral, conically turreted; whorls 7, rounded; suture deeply impressed; aperture subovate, small; lip simple; columella very short, terminating in a twisted plicate tooth; epidermis thin, dark corneous above and light corneous below.

 Var. \( \alpha \). Last whorl white, shell solid.

Length \( \frac{8}{29} \); breadth \( \frac{5}{20} \) inch.

Var. \( \beta \). Shell thin, dark corneous, polished.

Length \( \frac{10}{29} \); breadth \( \frac{4}{20} \) inch.

This species is the complete analogue of _A. acuta_ found in Oahu; it has a more ventricose aspect, and the striae are more developed in the _A. acuta._

39. _Achatinella obesa_ (Pl. XXIII. fig. 39, 39 a).  _A._ testa depressa, conica, solida, inflata; anfractibus 5, ventricosis, striatis; sutura bene definita; apice acuto; apertura ovata; columella plica forti, alba munita; labro intus incrassato; epidermide coloris umbrosi; apertura alba.

Long. \( \frac{8}{29} \); lat. \( \frac{7}{20} \) poll.

_Hab._ Hale a ka la, Mani.

Shell depressed, conical, solid, inflated; whors 5, rounded, stiate; suture well-marked; apex acute; aperture ovate; columella with a strong white plait; lip thickened within; colour of epidermis dark umber; aperture white.

Var. _agglutinans._

Shell somewhat carinated on the last two whors, with the keel extended by agglutinations, giving it a pagoda-like form.
This is the most depressed of the genus, but distinctly preserves the
generic characters, and in the variety exhibits a habit in land shells,
found, perhaps, only in Helicina agglutinans of Sowerby.

40. **Achatinella terebra** (Pl. XXIII. fig. 40). *A. testa turrita; anfractibus 6, rotundis, supra marginatis, ultimo subinflato; sutura bene impressa; apertura elongato-ovata; labro subreflexo, interne adacto; columella brevi, in plicam prominentem, contortam terminante; striis decussantibus; colore melleo cum signis undulantibus fuscis, pane obsoletis in anfr. superioribus; labro, apertura et columella niveis.*

**Long.** 10^16_25; lat. 5^16_25 poll.

**Hab.** W. Mani.

Shell turreted; whorls 6, rounded, last one inflated, margined above; suture well-impressed; aperture elongate-ovate; lip slightly reflected, thickened within; columella short, terminating in a prominent twisted plait; striae decussating; colour light yellow, with wave-like brown-coloured markings, nearly obsolete on the upper whorls; lip, columella and aperture white.

41. **Achatinella melanosis** (Pl. XXIII. fig. 41). *A. testa dextrorsa, tenui, depressa, conica; apice acuto; anfractibus 5, rotundis, ultimo inflato; sutura bene impressa; apertura subrotunda; labro simplici, tenui; columella recta, alba et in plicam valde obliquam terminante; colore nigro.*

**Long.** 8^16_25; lat. 5^16_25 poll.

**Hab.** Hawaii.

Shell dextral, thin, conically depressed; apex acute; whorls 5, rounded, the last inflated; suture well-impressed; aperture subrotund; lip simple, thin; columella straight, white, and terminating in a very oblique plait; colour black.

42. **Achatinella pupoidea** (Pl. XXIII. fig. 42). *A. testa dextrorsa, elongata; anfractibus 7, rotundis; sutura profunda; apertura parva, subovata; labro simplici; columella brevi, subdentata; epidermide tenui, pallide fusca; colore anfr. ventral. albo, trium superiorum subroseo et reliquorum plumbeo: lineae fuscae ziczacz interdum reperiuntur in partibus superioribus anfractuum inferiorum.*

**Long.** 14^16_25; lat. 5^16_25 poll.

**Hab.** E. Mani.

Shell dextral, cylindrically elongate; whorls 7, rounded; suture deep; aperture small, subovate; lip simple; columella short, lightly toothed; epidermis thin, of a light brown, beneath which the body whorl is white, the three above pinkish, and the others leaden: brown zigzag undulations are sometimes found on the upper portions of the lower whorls.

43. **Achatinella curta** (Pl. XXIII. fig. 43). *A. testa conica, sinistra, polita; anfractibus 5, rotundis, supra marginatis, ulti-
mis valde ventricosis; apertura ovata; labro simplici, interne leviter incrassato; columella brevi, in callum abrupte terminante; sutura leviter impressa; colore luteo vel castaneo, unicolori vel cum fascia suturali nigra, rare duabus vel pluribus anfr. 2 ultimi mis impositis; columella albida vel subfusca.

Long. \( \frac{12}{20} \); lat. \( \frac{8}{20} \) poll.

Hab. Waialua, Oahu.

Shell conical, sinistral, polished; whorls 5, rounded, margined above, the last very ventricose; aperture ovate; lip simple, slightly thickened within; columella short, with an abrupt callous termination; suture but slightly impressed; colour yellow or chestnut, plain or with a black sutural band, rarely with two or more on the last two whorls; columella white or light brown.

The rounded whorls and obese appearance of this shell are strikingly characteristic. It is a rare species and extremely limited in its range.

44. Achatinella fusca (Pl. XXIII. fig. 44). A. testa tenui, cylindrico-elongata; anfractibus 5, fere planis; sutura lineari, subimpressa; apertura ovata; striis longitudinalibus bene expressis; colore fusco; sutura infra marginem inferiorem fasciola coloris corneti circumcincta; anfr. ultimi dimidia inferiori corneo.

Long. \( \frac{6}{20} \); lat. \( \frac{35}{20} \) poll.

Hab. Manoa, Oahu.

Shell thin, cylindrically elongate; whorls 5, nearly flat; suture linear, slightly impressed; aperture ovate; lip acute; columella denated within; longitudinal striae strongly developed; colour brown, with a narrow horn-coloured band revolving below each suture; lower half of the last whorl horn-coloured.

This small species is not arboreal in its habits, and is found among the decaying leaves of the Tutui, near the base of the mountain at the head of Manoa valley.

45. Achatinella recta (Pl. XXIII. fig.45). A. testa plerumque dextrorsa, solida, pyramidalii; anfractibus 6, subrotundis, superne marginatis; sutura leviter impressa; apertura subovata; labro simplici, interne incrassato; columella brevi, torta et cum labro interiori coalescente; colore vario, plerumque flavo, unicolori vel vitis 2 nigris in anfr. ultimo ornato, quorum una in apertura decurrente, altera suturam appropinquante.

Long. \( \frac{14}{20} \); lat. \( \frac{7}{20} \) poll.

Hab. Waialua, Oahu.

Shell usually dextral, solid, pyramidal; whorls 6, but slightly rounded, margined above; suture slightly impressed; aperture subovate; lip simple, thickened within; columella short, twisting to unite with the inner lip; colour various, usually yellow, plain, or with two black bands on the last whorl, one of which is lost in the aperture, the other becomes sutural.

The shell above described is peculiar for its solidity and rigid aspect. It possesses none of the graceful curves which give to this

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genus so much of its beauty. The largest size yet discovered is given in the measurement.

46. Achatinella grana (Pl. XXIII. fig. 46). A. testa elongato-conica, cornea; anfractibus 6, ventricosis, submarginatis; apertura oblongo-ovata; labro subincrassato; sutura valde impressa; columella plicata albida, in apertura profunde immersa munita.

Long. $\frac{5}{26}$; lat. $\frac{2}{26}$ poll.

Hab. Mani.

Shell elongately conic, corneous; whorls 6, rounded, faintly margined; aperture oblong-ovate; lip slightly thickened, white; columella with a white plait deep in the aperture.

47. Achatinella porcellana (Pl. XXIII. fig. 47). A. testa solidiori, conica, polita, fulgente; anfractibus 5, rotundis, superne marginatis; apertura ovata; labro expanso, margine tenui, interne incrassato; columella brevi, tuberculari; colore albo porcellaneo, cum vitta flavo-fusca, pallida anfractum singulum circumambiente, quarum binae in anfr. ultimo.

Long. $\frac{12}{25}$; lat. $\frac{5}{25}$ poll.

Hab. E. Mani.

Shell rather solid, conical, polished, shining; whorls 5, rounded, margined above; aperture ovate; lip expanded, thin at the margin, thickened within; columella short, tubercular; colour of a porcelain whiteness, with a light fawn-coloured band encircling each whorl, the last whorl having two.

48. Achatinella venulata (Pl. XXIII. fig. 48, 48a). A. testa dextrorsa, elongato-conica; anfractibus 7, convexis, superne submarginatis; sutura bene impressa; apertura subovata; labro simplici, interne adacto; columella fortiter plicata, contorta, colore subroseo suffuso; colore albido vel albido-roseo cum venis longitudinalibus viridis vel olivaceis, ex epidermide formatis.

Long. $\frac{21}{26}$; lat. $\frac{10}{26}$ poll.

Hab. Kolan, Oahu.

Shell dextral, elongately conic; whorls 7, convex, slightly margined above; suture well-impressed; aperture subovate; lip simple, thickened within; columella strongly plicate, twisted, of a pinkish hue; colour of shell white, or pinkish white, with longitudinal veins of green or olive-green epidermal matter.

Var. a. Sinistral, with a deep black sutural band.

49. Achatinella mucronata (Pl. XXIII. fig. 49). A. testa elongato-ovata; anfractibus 6, ventricosis; sutura superne subimpressa, profunda ad juncturam anfr. ultimi; apertura parva, ovata; labro simplici; columella contorta, plicata; anfractu ultimo contracto et epidermide densa fusco-migra tecto; testa reliqua alba, signis mucronatis, numerosis, fuscis ornata.

Long. $\frac{14}{26}$; lat. $\frac{64}{26}$ poll.

Hab. Mani.
Shell elongate-ovate; whorls 6, rounded; suture above lightly impressed, becoming deep at the junction of the last whorl; aperture small, ovate; lip simple; columella with a twisted plait; the last whorl contracted and covered with a dense black epidermis; the superior whorls white, with numerous arrow-headed brown markings. This shell is intermediate between A. modesta of Adams, a Molokai species, and A. assimilis, the following species.

50. Achatinella Johnsoni (Pl. XXIII. fig. 50). A. testa dextrorsa, elongato-conica; anfractibus 7, subrotundis, superne leviter submarginalis; sutura profunda; apertura subovata; columella valde plicata, rosea, margine nigro; colore testae albo vel roseo cum lineis nigris 2 aut pluribus, quarum una vel duo centralibus, una suturali et altera plurumque ampliori infra anfr. ultimum.

Long. \(\frac{18}{20}\); lat. \(\frac{9}{20}\) poll.

Hab. Kolan, Oahu.

Shell dextral, conically elongate; whorls 7, slightly rounded, superiorly indistinctly margined; suture rather deep; aperture subovate; columella with a strong plication, pink, margined with black; colour of shell white or pinkish, banded with two or more narrow black lines, one or two of which are central, one sutural, and one usually broader inferiorly on the last whorl.

The following form an allied group:—A. producta, hybrida, aplustre, venulata and Johnsoni.

This species is dedicated to the Rev. Mr. Johnson, of Kawai, whose assistance in my researches I most thankfully acknowledge.

51. Achatinella aplustre (Pl. XXIII. fig. 51). A. testa conica, dextrorsa; anfractibus 7, rotundis; sutura leviter impressa, simplici; apertura semi-ovata; labro tenui; columella callosa, in plicam tortam terminante, colore albo-ceruleo, apice fusco; anfr. 3 primis spiralibus albidis, reliquis vitta ampla, centrali coloris rosei et fasciis binis nigris, marginalibus ornatis; anfr. ultimo fascis 2 viridibus.

Long. 1; lat. \(\frac{19}{20}\) poll.

Hab. Kolan, Oahu.

Shell conical, dextral; whorls 7, rounded; suture moderately impressed, simple; aperture semiovate; lip thin, with a callus, terminating in a twisted plait, bluish white tipped with brown; three first spiral turns white, the others with a broad central pink band, margined by two deep black bands; on the last whorl, superiorly and inferiorly, is a broad bright green band.

The gaudy colouring of this species alone separates it from the A. Johnsoni, nob. It belongs to the same section with A. producta, Reeve, which may be taken as the type of a group of species numbering some half-a-dozen, and which requires still further additions to render it complete.

52. Achatinella hybrida (Pl. XXIII. fig. 52). A. testa dextrorsa, conica; anfractibus 6, rotundis, superne marginatis; ul-
timo subinflato; sutura bene impressa; columella alba vel sub-fusca, in plicam contortam desinente; apertura ovali alba; labro simplici, interne incrasato; stris longitudinalibus delicatis; anfr. ultimo viridi vel fusco, superioribus albis cum venis longitudinalibus, formosis, epidermide concoloribus.

Long. \( \frac{18}{20} \); lat. \( \frac{16}{20} \) poll.

Hab. Kolau, Oahu.

Shell dextral, conical; whorls 6, rounded, margined above, the last somewhat inflated; sutura well-impressed; columella white or brownish, terminating in a twisted plait; aperture ovate, white; lip simple, thickened within; striae longitudinal, fine; colour of shell green or brown on the last whorl, above white, with fine longitudinal veins of the colour of the epidermis.

This species seems to be intermediate between *A. producta*, Reeve, and *A. venulata*.

53. *Achatinella assimilis* (Pl. XXIII. fig. 53). *A. testa conico-elongata, superne acuta; anfractibus 7, rotundis; sutura bene impressa; apertura parva, ovata; columella brevissima, plicata, contorta; labro acuto, interne subincrassato; colore albo vel rubro-flavido, anfractus ultimi dimidio inferiori interdum albido; interne albo-niveo.

Long. \( \frac{11}{20} \); lat. \( \frac{54}{20} \) poll.

Hab. W. Mani.

Shell conically elongate, acute above; whorls 7, rounded; sutura well-impressed; aperture small, ovate; columella very short, plicate, twisted; lip acute, thickened slightly within; colour white or salmon, sometimes the lower half of the last whorl white, and the rest of salmon; within pure white.

This species might be mistaken for a dwarf variety of *A. Mastersi*. Its habits are quite different, its locality distant, and the shell has an aspect quite distinct from the small varieties of *A. Mastersi*, as found on W. Mani.

54. *Achatinella reticulata* (Pl. XXIV. fig. 54). *A. testa conico-ovata; anfractibus 6, perrotundis; sutura superne mediocri, supra anfr. ultimum profunda; apertura parva, ovata; columella brevi cum dente plicato, fere transverso; colore fusco vel castaneo cum lineis et notis transversis, albidis, figuris varias epidermide imponentibus, speciem texti spiculati vel operis acupici praebeatibus.

Long. \( \frac{12}{20} \); lat. \( \frac{7}{20} \) poll.

Hab. Waianoe, Oahu.

Shell conically ovate; whorls 6, much-rounded; suture moderate, except at the junction of the last whorl, which is deep; aperture small, ovate; columella short, with a plicate tooth, nearly transverse; colour brown or chestnut, with white transverse lines and markings, laid on to the epidermis in various patterns like lace-work or embroidery.
55. **Achatinella ornata** (Pl. XXIV. fig. 55). *A. testa sinister*, acute pyramidal, shining; *anfractibus* 6, plano-convexis, supra marginatis; sutura bene impressa; apertura in testa adulta subquadrata, in immatura subovata; labro margine subincrassato; columella lata et complanata; testa superficie undulis alternantis vel signis ziczac albidis vel nigris, longitudinaliter dispositis, obtecta, cum vitta subcentralis transversa nigra, interdum etiam cum albida contigua in anfr. ultimo.

**Long.** $\frac{10}{20}$; **lat.** $\frac{4}{20}$ poll.

**Hab.** E. Mani.

Shell sinistral, acutely pyramidal, shining; whorls 6, plano-convex, margined above; suture well-impressed; aperture subquadrate in adult, subovate in immature shells; lip slightly thickened at the edge; columella broad and flattened; surface of shell covered with alternating undulations or zigzag markings of white and black arranged longitudinally, with a subcentral transverse black band, sometimes margined with a white one below on the last whorl.

This is an extremely rare species, found in a limited locality, in a deep ravine, at the back of Lahaina.

56. **Achatinella albo-labris** (Pl. XXIV. fig. 56). *A. testa conico-ovata*; apice acuto; *anfractibus* 6, rotundis, non marginatis; apertura ovata; columella brevi, plicato-dentata; labro semilunari, incrassato, albo; colore umbroso, cum linea suturali flava, interne caeruleo-albido.

**Long.** $\frac{14}{20}$; **lat.** $\frac{64}{20}$ poll.

**Hab.** Waianoe, Oahu.

Shell conically ovate; apex acute; whorls 6, rounded, not margined; aperture ovate; columella short, plicately toothed; lip semilunar, thickened and white; colour dark umber, with a yellow sutural line; within bluish white.

We are compelled to separate this and another, the *A. reticulata*, from *A. nucleola* of Gould, from which they differ in important and permanent characters.

57. **Achatinella elegans** (Pl. XXIV. fig. 57). *A. testa conico-longata, polita, nitente, solidiori*; *anfractibus* 6, plano-convexis, superne marginatis; sutura bene impressa; apertura subovata; labro albo, expando, subreflexo, in medio subcontracto, intus adacto; columella brevi, plana et subdentata; colore albo et fusco, modo secundum lineas ad longitudinem, modo maculis latis alternante, nonnunquam cum fascia alba, suturali et altera in anfr. ventrali addita.

**Long.** $\frac{18}{20}$; **lat.** $\frac{8}{20}$ poll.

**Hab.** Hauula, Oahu.

Shell conically elongate, polished, shining, rather solid; whorls 6, plano-convex, margined above; suture well-impressed; aperture subovate; lip white, expanded, subreflected, somewhat contracted in its centre, thickened within; columella short, flat and lightly toothed;
colour light and dark brown alternating, longitudinally arranged in lineations or broad patches; sometimes with a white sutural band, and an additional one on the body whorl.

58. **Achatinella Pfeifferi** (Pl. XXIV. fig. 58). *A. testa sinistrosa, acuminata, turritiformi; anfractibus 6, plano-convexis; sutura profunda; apertura oblongo-ovata; columella simplici, plana; labio externi simplici; superficie sulcis longitudinalibus profundis, striis transversis, bene expressis, decussatis; colore fusco cum lineis albis, longitudinalibus in anfr. superioribus.*

Long. $\frac{14}{20}$; lat. $\frac{4}{20}$ poll.

*Hab.* Molokai.

Shell sinistral, acuminate, turreted; whorls 6, flatly convex; suture deep; aperture oblong-ovate; columella plain and smooth; outer lip simple; surface irregularly cut up into furrows, ridges and tubercles by deep longitudinal sulcations, crossed by strongly developed transverse striae; colour brown, with white longitudinal lines on the upper whorls.

59. **Achatinella Cumingii** (Pl. XXIV. fig. 59). *A. testa sinistrosa, acuminata, turritiformi; anfractibus 6, planulatis, supra marginatis; sutura subimpressa; apertura oblongo-ovata; columella subcallosa; labio externo tenui, elliptico; striis numerosis, oblique transversis et fortiter delineatis, striis longitudinalibus decussatis, supra totam testam diffusis; colore fusco cum undulis albidis in anfr. superioribus.*

Long. $\frac{16}{20}$; lat. $\frac{4}{20}$ poll.

*Hab.* Hale a Ka la, E. Mani.

Shell sinistral, acuminate, turreted; whorls 6, margined above, planulate; suture moderately impressed; aperture oblong-ovate; columella slightly callous; outer lip thin, elliptical; numerous striae, obliquely transverse and well-marked, traverse the entire shell, with longitudinal incremental striae more or less developed; colour brown, with obsolete white undulations on the superior whorls.

This species, with the preceding, form, with the *A. plicata* of Mighels, a group of an eccentric and extremely interesting type.

No apology will be offered for dedicating this remarkable species to H. Cuming, Esq., of London.

60. **Achatinella solitaria** (Pl. XXIV. fig. 60). *A. testa ovata, conica, dextrorsa; anfractibus 6, plano-convexis; sutura subimpressa; apertura ovata; labro acuto, intus incrassato; columella alba, brevi, lata et abrupte contorta; colore castaneo pallido cum striis obscurioribus, longitudinalibus, prope basin viridi; fascia suturali alba in anfr. 2\(\frac{1}{2}\) ultimis, in superioribus fusca; apice lacteo.*

Long. $\frac{14}{20}$; lat. $\frac{81}{20}$ poll.

*Hab.* Palolo, Oahu.

Shell ovately conical, dextral; whorls 6, flatly convex; suture
slightly impressed; aperture ovate; lip acute, thickened within; columella white, short, broad and abruptly twisted; colour light chestnut, with darker longitudinal stripes, green at the base; a white sutural band for the last $2\frac{1}{2}$ whorls, and a brown band on the suture above.

But a solitary specimen of this species has been obtained. Its characters are, however, sufficiently striking to warrant us in giving it a place as a distinct species.

61. Achatinella germana (Pl. XXIV. fig. 61). A. testa dextrorsa, ovato-conica; anfractibus 6, plano-convexis; apertura ovata; labro acuto, iatus incrassato; columella brevi, tuberculati, fusca; colore castaneo cum lineis delicatis, obsoletis, transversis, obscurioribus, vitta alba suturam ultimam transeunte et anfr. ventralem medio secante; fascia lata in apertura evanescente, columellam circumdante.

Long. 15$\frac{10}{20}$; lat. 8$\frac{1}{20}$ poll.

Hab. Makawao, Mani.

Shell dextral, ovately conical; whorls 6, flatly convex; aperture ovate; lip acute, thickened within; columella brown, short and tubercular; colour chestnut, with fine obsolete darker transverse lines; a white band traverses the last sutural whorl and cuts the body whorl centrally; around the columella is a broad white band, losing itself in the aperture.

Closely resembles the A. solitaria, and but for the widely distant localities, might be taken for a variety of the same species. The markings and columellae are however quite distinct.

62. Achatinella flavescens (Pl. XXIV. fig. 62). A. testa dextrorsa, conica; anfractibus 6, subrotundis; sutura simplici, bene impressa; striis numerosis longitudinalibus, et bene expressis; apertura semiovali; labro simplici; columella brevi, dente obliquo, plicato munita; colore testae externe uniusmodi subflavo, interne albidio vel subroseo.

Long. 13$\frac{10}{20}$; lat. 6$\frac{1}{20}$ poll.

Hab. Hawaii.

Shell dextral, conical; whorls 6, slightly rounded; suture simple, well-impressed; striae numerous, longitudinal and well-developed; aperture semiovate; lip simple; columella short, with an oblique plaited tooth; colour of shell externally of a uniform light reddish yellow, internally white or pale rose.

This species belongs to a group, at the head of which stands A. rubens of Gould. Its specific character is sufficiently marked. It is one of three species thus far obtained on the large island of Hawaii.

63. Achatinella Helena (Pl. XXIV. fig. 63). A. testa ovato-conica; anfractibus 5, ventricosis; sutura profunda; apertura ovata; columella subcallosa; striis minute decussatis; colore rufo alternante cum lineis ziczac albis, longitudinalibus, latis, totam
testam obtegentibus, cum vel sine fascia alba, anfr. ultimum cingente.

Long. \( \frac{10}{20} \); lat. \( \frac{54}{20} \) poll.

Hab. Molokai, within the coil of the Ti tree leaf, as it starts from the trunk.

Shell ovate-conical; whorls 5, rounded; suture deep; aperture ovate; columella slightly callous; striae finely decussated; colour rufous, alternating with broad, longitudinal, zigzag lines of white covering the entire shell, with or without a white band encircling the last whorl.

This forms the commencement of the type alluded to under the description of A. dubia.

64. Achatinella physa (Pl. XXIV. fig. 64). A. testa sinistrorsa, acuto-conica, tenui, inflata; anfractibus 5, rotundis; sutura bene impressa; apertura oblongo-ovata; columella tenui, suberculata; labro simplici; colore subflavus-fusco cum flammulis albidis longitudoinalibus, cum vel sine linea alba, subcentrali circa anfractum ventralem.

Long. \( \frac{11}{20} \); lat. \( \frac{5}{20} \) poll.

Hab. Mouna Kea, Hawaii.

Shell sinistral, acutely conical, thin, inflated; whorls 5, rounded; suture well-marked; aperture widely ovate; columella thin, slightly twisted; lip simple; colour light yellowish brown, with white longitudinal flammules, with or without a subcentral, revolving, white line on the body whorl.

65. Achatinella dubia (Pl. XXIV. fig. 65). A. testa dextrorsa vel sinistrorsa, tenui, conico-elongata; anfractibus 6, minute decussatim striatis; sutura simplici; apertura ovata; labro expanso, subreflexo; columella alba, bulimoidea in speciebus junioribus (adultis callo conspicuo munitis); umbilico parvo et perforato; colore pallide corneo, cum lineis ziczac et maculis pallidis.

Long. \( \frac{16}{20} \); lat. \( \frac{7}{20} \) poll.

Hab. Waianoe, Oahu.

Shell dextral or sinistral, thin, conically elongate; whorls 6, with finely decussating striae; suture simple; aperture ovate; lip expanded, slightly reflected; columella white, bulimoid except in adult specimens (which exhibit a callus); umbilicus small and perforate; colour light corneous, with radiating zigzag lines and blotches of a light colour.

Found on bushes.

The above shell approaches in its characters very near to the genus Bulimus. It is referred to this genus from its disposition to be either sinistral or dextral; from its animal being viviparous; and from old specimens exhibiting a flat, twisted columellar tooth. It forms the terminus of a series of four species herein described; the others are A. Helena, A. physa and A. grisea, all heterostrophe species.
66. Achatinella grisea (Pl. XXIV. fig. 66). A. testa sinister, infra inflata, apice acuminato; anfractibus 6, rotundis, non marginatis; apertura ovata; columella brevi, plana et subplicata; labro expanso, interne incrassato; sutura bene impressa; umbilico subaperto; colore supra cinereo-albo, fusco pallide maculato, infra cinereo; anfractu ultimo vitta angusta, albida circumdata.

Long. $\frac{16}{20}$; lat. $\frac{9}{20}$ poll.

Hab. Makawao, Mani.

Shell sinistral, inflated below, pointed at the summit; whorls 6, rounded, not margined; aperture ovate; columella short, flat and but slightly twisted; lip expanded, thickened within; suture well-impressed; umbilicus open; colour above greyish white mottled with light brown, below ashy grey; the body whorl encircled by a narrow white band.

67. Achatinella Mastersi (Pl. XXIV. fig. 67). A. testa dextrorsa, tenue, conica; anfractibus 7, rotundis, supra leviter rugosis, inferioribus fortiter inflatis; apice acuto; sutura valde impressa; apertura ovata; labro simplici; columella brevi, plica lamellari, tenui munita; colore superbe castaneo vel albo, cum vestigiis epidermidis tenuis, fusco-nigris; interne albo vel caeruleo-evanido.

Long. $\frac{16}{20}$; lat. $\frac{8}{20}$ poll.

Hab. Mani.

Shell dextral, thin; whorls 7, rounded, slightly rugose above, the last strongly inflated; apex acute; suture well-impressed; aperture ovate; lip simple; columella short, with a thin lamellar plait; colour of shell white or rich chestnut, with traces of a thin brown epidermis; within white or bluish white.

This species I dedicate to S. I. Masters, Esq., who has been indefatigable in his researches on the islands of Oahu, Mani and Ranai, and who has furnished many choice and beautiful shells of this genus before unknown to science.

The size varies much in this species, and the colouring is also various, running from pure white through various tints to a light mahogany. The lower part of the shell is not unfrequently white, and the upper portion bright chestnut or rose-coloured.

68. Achatinella decipiens (Pl. XXIV. fig. 68). A. testa conico-elongata, solida; anfractibus 6, subrotundis, supra depressis; apertura elongato-ovata; labro subreflexo; columella brevi, oblique plicata, cum callo expanso; sutura subimpressa; striis numerosis, longitudinalibus, obliquis; colore albo cum fasciis transversis, luteis, vel luteo cum lineis transversis, albidis, et striis longitudinalibus, castaneis.

Long. $\frac{16}{20}$; lat. $\frac{7}{20}$ poll.

Hab. Kahana, Oahu.
Shell conically-elongate, solid; whorls 6, slightly rounded, margined above; aperture elongately-ovate; lip subreflected; columella short, obliquely twisted, with an expanded callus; suture slightly impressed; striæ numerous, longitudinal, oblique; colour white with yellow transverse bands, or yellow with white transverse lines, and longitudinal chestnut-coloured stripes.

This species cannot be confounded with any other than the *A. subvirens* in one of its varieties, the distinctive marks of which are given under that species.

69. *Achatinella rubiginosa* (Pl. XXIV. fig. 69). *A. testa dextrorsa, solida, ovato-conica; anfractibus 6, rotundis, supra marginatis; sutura bene impressa; labro subreflexo, interne incrassato; apertura ovata; columella brevi, fortiter dentata, cum callo expanso umbilicum obtegente; colore ferrugineo-ful gente, cum vitta alba suturali; columella et anfractus ultimi parte inferiore et exterior albidis.*

Long. $\frac{15}{20}$; lat. $\frac{8}{20}$ poll.

*Hab.* Palolo, Oahu.

Shell dextral, solid, ovately conical; whorls 6, rounded, margined above; suture well-impressed; lip lightly subreflected, thickened within; aperture ovate; columella short, strongly dentate, with an expanded callus covering the umbilicus; colour a bright reddish brown, with a white band accompanying the sutures; columella and lower and outer portion of last whorl white.

This species passes into the white variety of *A. tæniolata* of Pfeiffer; but in the latter species the mantle of the animal is of a dark slate-colour, and in the present species it is of a light flesh-colour. The markings are characteristic of the species, the rusty hue varying in intensity and quantity of surface covered in different specimens.

70. *Achatinella variabilis* (Pl. XXIV. fig. 70). *A. testa sinistrorsa vel dextrorsa, conico-acuminata, polita, nitente; anfractibus 6, rotundis, superne submarginatis; apertura subovata; columella brevi, tuberculo forti coloris rosei munita; labro expanso, acuto; colore testæ vario, albo, flavo, nigro, etc., unicolori vel ciugulis sex minusve, colorum diversorum in anfr. ultimo ornato.*

Long. $\frac{8}{20}$; lat. $\frac{14}{20}$ poll.

*Hab.* Ranai.

Shell sinistral or dextral, conically acuminate, polished, shining; whorls 6, rounded, lightly margined above; aperture roundly ovate; columella short, armed with a strong tubercle of a roseate colour; lip expanded, acute; colour of shell white, yellow, black and other shades, plain or with from one to six bands of various colours on the last whorl.

This is the most variable species in markings that has yet been found among the *Achatinella*. It is extremely difficult to find two (except the plain ones) precisely alike in this respect.
71. Achatinella crassa (Pl. XXIV. fig. 71). *A. testa dextrorsa, conica, solida, apice acuminato; anfractibus 6, rotundis, ultimo ventricoso; striis decussantibus; sutura modice distincta; aperture subovata; columella brevi, in plicam fortent terminante; labro albo, late expanso et subreflexo; umbilico aperto; colore castaneo-fusco, albis punctis asperso, cum vita alba, subcentrali in anfractu ultimo.

Long. $\frac{16}{20}$; lat. $\frac{16}{20}$ poll.

Hab. Ranai.

Shell dextral, conical, solid, pointed at the apex; last whorl ventricose; strie decussating; whorls 6, rounded; suture moderate; aperture subovate; columella short, terminating in a very strong plait; lip white, broadly expanded and subreflected; umbilicus open; colour dark chestnut sprinkled with white, with a white subcentral band on the last whorl.

This shell in form approaches the genus *Partula*. Having obtained the specimens alive, I have been enabled to examine the animal, and can find no marks to distinguish it from the common type of the genus *Achatinella*.

72. Achatinella Baldwinii (Pl. XXIV. fig. 72). *A. testa dextrorsa, conico-ovata, ad longitudinem striata; anfractibus 7, sub-concavis, non marginatis; sutura simplici, bene impressa; aperture elongato-ovata; columella longa, dente albo, plicato munita; labro acuto, massa alba obtecto, interne fusco-marginato; aperture carneo-albida; colore subfuscо, cum vestigiis epidermidis tenuis, nigra; anfr. 4 supremis nigris.

Long. $\frac{21}{20}$; lat. $\frac{16}{20}$ poll.

Hab. Ranai.

Shell dextral, conically elongate, striated longitudinally; whors 7, slightly convex, not margined; suture simple, well-impressed; aperture elongate-ovate; columella long, with a white plicate tooth; lip acute, margined within with brown; aperture bluish white; labrum with a white deposit; colour of shell light brown, with traces of a thin, black epidermis; first four whors black.

This species is dedicated to the Rev. Mr. Baldwin of Lahaina. It belongs to the limited group of *A. gigantea* and *A. violacea*. There has been but one specimen of this species as yet obtained.

73. Achatinella Buddii (Pl. XXIV. fig. 73). *A. testa sinistrorsa, conico-ovata, solida; anfractibus 6, convexis, supra delicata marginatis; sutura moderate depressa, albo cingulata; aperture ovata; labro acuto, inferiori recedente, interne incrassato; columella brevi, cum plica terminali; colore albido-luteо, plumbeo vel fulvo; aperture et columella albis.

Long. $\frac{16}{20}$; lat. $\frac{9}{20}$ poll.

Hab. Palolo, Oahu.

Shell sinistral, conically ovate, solid; whorls 6, convex, slightly margined above; suture moderately impressed, banded with white;
aperture ovate; lip acute, thickened within; columella short, with a terminal plication; colour yellowish (or cinnamon), slate or fawn; columella and aperture white.

This uncommon species I take pleasure in dedicating to Dr. B. W. Budd of New York, who has largely contributed in assisting others to build up a scientific reputation in the United States.

74. Achatinella Emmersonii (Pl. XXIV. fig. 74). A. testa conica, polita, dextrorsa, solidiori; anfractibus 6, rotundis, supra marginatis; sutura distincta; apertura subovata, intus peralbida; columella brevi, tuberculata; labro acute, intus nigro-marginato; testa superficie externa omnino margaritaceo-alba.

Long. $\frac{11}{20}$; lat. $\frac{8}{20}$ poll.

Hab. District of Waialua.

Shell conical, polished, dextral, rather solid; whorls 6, rounded, margined above; suture distinct; aperture subovate; columella short, tuberculate; lip acute, margined with black within; aperture internally pure white; exterior of shell uniform pearly white.

This shell in its general aspect is the complete counterpart of A. Mighelsiana of Pfeiffer. The latter species is from Molokai. This is clearly distinct, as may be seen by a cursory examination of the two species.

75. Achatinella buplicata (Pl. XXIV. fig. 75). A. testa dextrorsa, elongato-cylindrica; anfractibus 7, rotundis, longitudinaliter valida striatis; sutura profunda; apertura parva, subovata; labio subcalloso; columella biciplicata; labro acute, intus submarginato; colore subroseo, epidermide fusco, tenui partim obtecta; anfractibus supremis nigris; apertura intus rubra.

Hab. Ranai, Sandwich Islands.

Shell dextrorsal, elongately cylindrical; whorls 7, rounded, longitudinally strongly striated; suture deep; aperture small, subovate; inner lip rather callous; columella biplicate; outer lip acute, submarginate within; colour rosy, partly concealed by a thin brown epidermis; upper whorls black; aperture red within.

76. Achatinella semicarinata (Pl. XXIV. fig. 76). A. testa dextrorsa, solida, ovato-conica, longitudinaliter substrati; anfractibus 5, planulatis, supra marginatis, ultimo in medio angulato et semicarinato; apertura ovata; columella valde uniplicata, plica contorta, dentiformi; labro antice producto, intus valde marginato; colore stramineo; apertura intus alba.

Hab. Island of Ranai.

Shell dextrorsal, solid, ovately-conical, longitudinally substrati; whorls 5, flattened, marginate above the last, angulated in the middle and semicarinated; aperture ovate; columella ending in a tortuous, obtuse, dentiform plait; outer lip anteriorly produced, strongly marginate within; colour pale yellow; aperture white internally.

A straw-coloured conical species, with the last whorl partially surrounded with an elevated keel.
1. *Saturnia Jorulla*
2. *Orizaba*
3. *Lavendera*
77. Achatinella mœsta (Pl. XXIV. fig. 77). A. testa dextrorsa, turrito-conica; anfractibus 7, convexis, longitudinaliter striatis; apertura parva, ovata, leviter contracta; columella recta, plica valida, spirali, alba, in medio munita; colore sordide fulvo, epidermide nigro-fusca obtecto.

Hab. Island of Ranai.

Shell dextrorsal, turrito-conical; whorls 7, convex, longitudinally striated; aperture small, ovate, slightly contracted; columella straight, with a strong, white, spiral callus in the middle; colour reddish brown; the upper whorls black, the middle ones with black zigzag lines, the last covered with a dark brown epidermis.

78. Achatinella obscura (Pl. XXIV. fig. 78). A. testa dextrorsa, turrito-conica; anfractibus 7, longitudinaliter striatis, subrotundis, superne margiunatis; sutura leviter impressa; apertura parva, ovata; columella subortuosa, lamina spirali munita; labro acuto, simplici; colore sordide fulvo, epidermide nigro-fusca obtecto; anfractibus supremis nigris.

Hab. Island of Ranai.

Shell dextrorsal, turrito-conical; whorls 7, longitudinally striated, rather convex, marginate superiorly; suture slightly impressed; aperture small, ovate; columella subortuous, furnished with a spiral lamina; outer lip acute, simple; colour dirty fulvous, covered with a blackish brown epidermis; the upper whors black.

79. Achatinella concinna (Pl. XXIV. fig. 79). A. testa dextrorsa, umbilicata, subnitida, longitudinaliter creberrime striata; anfractibus 6, convexis; sutura impressa; apertura ovata; columella brevi, recta, reflexa, lamina spirali antice munita; labro simplici, acuto; colore citrino; anfractibus supremis roseis.

Hab. Island of Ranai.

Shell dextrorsal, umbilicate, longitudinally very finely striated, rather shining; whorls 6, convex; suture impressed; aperture ovate; columella short, straight, the margin reflexed, furnished anteriorly with a spiral plait; outer lip simple, acute; colour pale yellow; the uppermost whorls rosy.

4. Descriptions of some New Species of Exotic Moths belonging or allied to the Genus Saturnia.

By J. O. Westwood, F.L.S. etc.

(Annulosa, Pl. XXXII. XXXIII.)

Having, in a former Article in this Work (No. CXCII. March 27, 1849), reviewed the whole of the known species of large African moths belonging or nearly allied to the genus Saturnia, and having also, in the "Cabinet of Oriental Entomology," described and figured a number of species of the same group from various parts of India, I purpose in the present paper to describe several additional species, chiefly from the New World, which appears to be very rich in these
fine insects. For several of the species contained in this memoir I am indebted to D. Coffin, Esq., who on his return from Mexico most liberally presented me with his whole collection, formed in that country during a residence of considerable extent.

Saturnia Orizaba, Westw. (Pl. XXXII. fig. 2.) S. alis anticis maris subfuscatis, posticis elongatis; in utroque sexu fulvis, brunneo griseoque variis, omnibus plaga magna triangulari (in omnibus alis aequali), apice extus in strigam undatum albam intus nigro marginatum, insidenti, macula subapicali alarum anticarum e guttis tribus nigris composita, linea tenuissima nigra valde undulata submarginali serie macularum parvarum in alis posticis includente. ♂ ♀

Expans. alar. antic. maris, 5½ unc.; fem. 6½ unc.


This species is closely allied to Sat. Aurota (Cramer, pl. 8. fig. A), from Surinam, but differs at once in the form of the vitreous patch of the hind wings. The specimen figured by Cramer is a female. The one represented in our illustration is a male, but I possess both sexes, agreeing exactly together in the markings of all the wings, and differing only in the female being larger, with the fore wings broader and almost straight along the outer margin, and the hind ones shorter and more regularly ovate.

The general colour is dark fulvous, the middle portion of the wings being darker than the base and apex. The front of the thorax is marked by a narrow transverse white line, and there is a broader transverse one across its hind part, connected with a white streak running in a continuous line along the hind margin of the fore wings for about one quarter of their length, where it forms a strong angle and runs nearly to the costa; it is outwardly edged with black; this is succeeded by the large vitreous patch in the centre of the wings, of a triangular form, the side towards the base of the wing being rather emarginate; and its apex rests upon a white undulated striga running across the wings, edged within with black, beyond which the wing is much irroration with pale and grey scales, especially towards the costa; near the tip of the wing is a black crescent, and a patch composed of three small black spots in a triangle, on a fulvous ground, preceded by a curved white line; the margin of the wing is ashy buff, traversed by a very slender, very much waved black line.

The hind wings have a similar-sized vitreous patch in the middle, its basal edge being nearly straight, preceded by an arched white line, outwardly edged with black and connected towards the costa with the strongly-waved white line (inwardly edged with black) on which the apex of the vitreous patch rests; the ashy buff margin of the wing bears a series of small black spots, followed by a very slender waved black line.

On the underside the wings have the base of a rich darker brown colour (extending as far as the undulated transverse striga), the apical half of the wings (as well as the costa of the hind ones) being much paler.
The antennæ of the males are not very broadly feathered; they are 32-jointed, each joint emitting four branches of equal length, except about eight of the terminal joints, in which one of the pairs of branches gradually diminishes in length, and becomes obsolete in two or three of the terminal joints. The antennæ of the female are less strongly feathered, and one of the pairs of branches becomes obsolete in about seven of the terminal joints.

**Saturnia Zacateca**, Westw. (Pl. XXXIII. fig. 4.) *S. alis valde angustis subfalcatis nigris, omnibus macula maxima vitrea, anticis striga basali geniculata alba, ad apicem fulvo, castaneo griseoque variegatis, fascia interrupta alba extus rufescenti; posticis nigris, prope marginem posticum fascia interrupta alba extus castaneo-rufa, margine postico griseo variegato.* ♂

*Expans. alar. antic. unc. 3½.*


This curious species is at once distinguished by its very narrow wings and the large size of the glassy spots, especially in the hinder pair; the body is black, with a white ring round the neck and a less distinct fascia across the hind part of the thorax. The antennæ are very strongly branched; the fore wings are especially long and narrow and slightly falcate at the tip, which is rounded; they are of a black colour, slightly tinged with chestnut, and powdered, especially along the fore margin, with grey scales. A narrow, straight, white striga extends from the base of the wing to the vitreous spot, where it is angulated, and runs towards the fore margin. The centre of the wing is occupied by a large, elongated, suboval heptagonal vitreous spot, which is not traversed by any transverse vein, the branches of the median vein being pushed so far backward, as to admit of its occupying so large a clear space; a narrow white fascia extends from its extremity to the costa, and from the middle of its hinder margin to the hind margin of the wing, the space between which and the apical margin is varied with chestnut, red and grey scales and luteous patches. The tip of the wing is orange, with a chestnut patch and a white angulated line, below which is a large oval chestnut-red patch, bearing a black spot and divided into several parts by dark luteous lines. The hind wings are almost entirely occupied by a large oval glassy patch destitute of veins, the subcostal vein being pushed towards the costal margin, and the median one towards the anal margin, and their branches emitted at an unusual distance from the base of the wing; the apical portion is coloured in the same way as in the fore wings, except that the luteous spots form a narrow, continuous, submarginal fascia, enclosing a series of transverse, black spots more or less united in pairs.

**Saturnia Jorulla**, Westw. (Pl. XXXII. fig. 1.) *S. alis fulvo-fus-cis; anticis macula subtriangulari, posticis macula subovali, vitreiis albo nigroque marginatis, striga angulata e basi ad costam anticarum, alterque multidentata (communi) pone medium albis nigro roseoque marginatis; striga tenui, nigra, undata, subapicali, macula
triptita, nigra versus apicem connexa; posticis serie submarginali macularum rosearum, extus linea undata, nigra e margine griseo separata. ♀

Expans. alar. antic. maris, unc. 4.


This species is allied to *Saturnia Hesperus* (Cramer, pl. 68. fig. A), but is smaller, and has the dentated fascia of the fore wings extending in a straight line entirely across them; it is also much more brightly coloured. Both sexes have the fore wings emarginate along the outer margin, those of the female being rather less so than those of the male. The general colour of the wings is tawny brown; the fore wings with the fore margin thickly clothed with grey scales being white towards the base; the front of the thorax has a continuous white band; another extends also across the hind part of the thorax, and is continued by a white bar along the wing for about one-third of its length, where it is angulated, and extends nearly to the costa; it is inwardly edged with bright rosy, and outwardly in part with black; the vitreous patch which occupies the middle of the wing is subtriangular, having a narrow white margin succeeded by a wider black one. This spot is followed by a multidentate white striga, edged with black on the inside and with rosy red on the out, running nearly in a straight direction across the wing, and extending also in a curved one across the hind wings to the anal margin. This striga is followed in both wings by a rather wide space much powdered with grey atoms, except towards the costa, which is more ashy coloured; the dull luteous margin is traversed by a slender, waved, black line, followed by a white band, and towards the tip of the fore wings is a black patch, outwardly dentate, succeeded by two smaller black ones edged with tawny, and a short curved and dentated white line extends to the tip of the wing.

The hind wings are very similar to the fore ones, having near the base a slightly curved white streak outwardly edged with black, followed by a nearly oval vitreous spot, edged with white and black, slightly larger than the spot of the fore wings; and the luteous margin of these wings bears a slender wavy black line, preceded by a row of small rosy and black spots.

The wings on the under side are coloured exactly as on the upper, except that the costa of the hind wings is narrowly white. The antennae of the males are but moderately feathered: they are about 30-jointed, each joint producing two branches of equal length on either side, except that in the eight or nine terminal joints one of the pairs of branches is gradually obsolete, being entirely wanting in the six last. The antennae of the female resemble those of the male, but are rather less strongly feathered.

*Saturnia Lavendera*, Westw. (Pl. XXXII. fig. 3.) *S. alis flavis, basi obsolete fusco-strigosis; omnibus ocello parvo ovali (fere equali) livide carneo, medio vitreo, nigro tenue cincto, anticis pone
medium strigis duabus tenuibus undulatis valde obliquis, fascia lat a fulvo-brunnea extus undulata maculaque parva nigra subapicali; posticus striga ante medium integra, allariaque pone medium dentata nigris serieque subapicali lunularum fulvo-brunnearum. ♀

Expans. alar. antic. fœm. unc. 4½.


Of this handsome species I am only acquainted with female specimens, varying in the more or less golden yellow tint of the ground colour of the wings, which are thickly irrorated with small blackish scales. The anterior pair have the fore margin (as well as the front of the thorax) grey. They are rather dusky near the base and next the costa. There is a dusky spot followed by a short transverse black bar, which is connected with a scarcely distinct waved oblique striga extending to the inner margin. In the middle of the wing is an oval rosy-liver-coloured ocellus, the centre vitreous, surrounded by a black ring, resting on the outside on a very oblique waved black line, which is followed by another, broader but rather less waved, and this is succeeded by a broad space of reddish brown irrorated with grey scales, deeply scalloped along its outer margin. Near the tip of the wing is a black spot, below which is a slender black longitudinal line.

The hind wings are rather dusky at the base, with a nearly straight blackish streak running across them rather before the middle. The ocellus on these wings is sometimes rather larger than that of the fore wings, and in other specimens is united with the transverse blackish bar; beyond the ocellus is a slender dentated blackish line, followed at a short distance by a second, less distinct, and which forms the fore margin of a row of submarginal broad reddish brown lunules.

The antennæ of the females are but moderately feathered; they are 31-jointed, each joint only producing a single branch on each side, the place of the two wanting branches being indicated by two minute bristles in their stead; the branches gradually decrease in length, from about one-third of the length of the antennæ to the tip.

Saturnia Calleta, Westw. (Pl. XXXIII. fig. 2.) S. alis nigricanti-fuscis, omnibus in medio macula angulata strigaque communi integra inter medium et apicem albis notatis; anticis striga angusta angulata versus basin, ocello nigro extus ferrugineo serieque lunularum nigrarum subapicalibus; posticus serie subapicali macularum nigrarum lineaque tenui undata nigra. ♀

Expans. alar. antic. maris, unc. 4½; fœminæ, unc. 5½.


This very distinct species is at once distinguished by the black-brown colour of its wings, marked in the place of the ordinary ocellus with an angulated white mark, like a wide prostrate V. The female is considerably larger than the male, and has broader wings, the an-

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terior being nearly straight along the apical margin, and the hind ones shorter and wider. The thorax has a pale fleshy coloured fascia in front, and the hind part has a less distinct one of dull fulvous; towards the base of the wing is an angulated white striga, and all the wings are marked in the middle with the above-mentioned angulated white mark; halfway between which and the outer margin of the wings is a white fascia with the edges entire, rather wider in the hinder wings, followed by a space which is much irrorated with grey and fulvous scales, especially in the hind wings, but becoming more uniformly ashy towards the costa of the fore wings. This space closes in the fore wings ten slender black lunules arranged in pairs, each pair united together above by a more strongly marked black lunule, edged towards the apical margin with white. The anterior pair of lunules is followed towards the costa by a black ocellus bearing a slender white arched line, and outwardly bearing a broad ferruginous border, and next the apical angle are two white arched lines resting in the middle on a ferruginous patch; the dull luteous apical margin inwardly becomes paler, and is preceded by a slender waved black line; the uniformly dull luteous margin of the hind wings bears a row of small black oval spots, followed by a slender slightly-waved black line. The underside is coloured and marked as above, except that the subapical markings are all more clearly defined.

The antennae of the males are deeply feathered; they consist of about 30 joints, each emitting a pair of setose branches on either side, except the six terminal joints, which are extremely short, each only emitting a single very short branch on its upper side. In the female antennae the branches extend (gradually diminishing in length) to the tip, but in the eight terminal joints one of the branches on each side becomes gradually obsolete, being quite wanting in the five terminal joints.

Saturnia Chapata, Westw. S. alis roseo-fulvis anticarum costa colloque griseis, omnibus ocello medio, magnitudine mediocrig, aquili, medio vitreo, intus hepatico, extus flavo, circuloque fusco cincto; anticis striga recta valde obliqua pone medium fusca, macula parva nigra subapicali adjecta. ☉
Expanse alar. antic. maris, unc. 4½.
My unique specimen of this species is a male, and having been reared from the larva, its hind wings are not quite fully expanded. The fore wings are more strongly falcate than in any of the other Mexican species described in this article. The ground colour of all the wings is a rich rosy fulvous, with slight brown shades across the middle of the fore wings. The fore margin of these wings, as well as the front of the thorax, is greyish; halfway between the base and the middle is a very ill-defined and irregularly angulated dusky striga; in the middle of all the wings is a moderate sized oval ocellus, being of the same size in all the wings, the centre vitreous, the anterior part being liver-coloured, and the outer part gradually yellow, surrounded by a narrow dusky circle; halfway between the ocellus and the api-
cal margin runs a straight but very oblique dusky striga, extending from rather beyond the middle of the hinder margin nearly to the apex of the wing, where it is dilated into a small black patch. The hind wings have a more rosy tint, with a transverse, very ill-defined, dusky striga a little in front of the ocellus, and there is a slender undulated dusky striga half way between the ocellus and the hinder margin.

On the under side the wings are rather more ashy in their general colour, and the dusky stripe between the base and the ocellus in all the wings is better defined; across all the wings there is a central cloud of tawny running through the ocelli, which are smaller on this side than above, and beyond these marks is a very slight and slender row of dusky scallops; the subapical margin of the fore wings is more tawny, especially towards the hinder angle. The antennae are fulvous and broadly feathered, consisting of about 30 joints, each emitting two branches on either side.

**Saturnia Sapatoza**, Westw. (Pl. XXXIII. fig. 1.) *S. alis supra viridi-sulphureis, nigro-atomosis; anticus in mare subfalcatis; omnibus lunulae vitreae mediocris, equalis, anticus fascia obscura parum undata inter basin et medium, alteraque undulata inter lunam et marginem apicalem; puncto nigro subapicali; posticus striga transversa media lunulisque subapicalibus obscuris. ♀

Expans. alar. antic. unc. 3\(\frac{1}{2}\).

Hab. in Bogota. In Mus. Britann.

This beautiful species is one of the smallest of its tribe, and is well distinguished by its peculiar colour and by the form of the lunate vitreous patch, of nearly equal size on all the wings. The wings are sulphur-yellow-coloured above, the disk covered with minute black scales, which give it a greenish tinge; fore wings with the extremity slightly falcate in the male, more regular shaped in the female, brownish buff, with a small subapical black oval dot, edged behind with an angulated white line. All the wings marked rather beyond the middle with a lunate vitreous spot, of equal size in all the wings, narrowly edged with black and with a slender curved vein (uniting the lower branch of the subcostal with the upper branch of the median veins) running through the centre of it; the fore wings moreover with a slightly waved dusky fascia before the middle and a slender waved subapical dark striga (much more strongly marked in the female than in the male), adjoining which, on the outside, is a narrow wave, paler than the ground colour of the wing, the terminal portion of the wing being duller coloured than the disc, and irrorated in both sexes towards the hinder angle with brown scales. Hind wings entire along the outer margin, with a nearly straight dusky striga running across the centre a short distance preceding the vitreous lunule, with a slender waved lilac-brown striga half way between the lunule and the outer margin, and with a series of submarginal brown curved streaks, followed by patches of flesh-coloured scales. On the underside the male has the wings chestnut-grey, the disc more strongly suffused with red, with the striga and waved lines of the
upper side slightly indicated; the female on the underside is greyish buff slightly shaded with brown, especially in the middle, with the dark markings of the upper side slightly indicated, the legs flesh-coloured. The antennae of the male are short and about 26-jointed, each of the joints (except two or three at the tip) emitting four long branches. The female antennae are 25-jointed, each joint emitting a short branch on each side at its extremity. The female has the branches of the antennae shorter than those of the male.

**Saturnia Janeira**, Westw. (Pl. XXXIII. fig. 3.) S. alis anticus apice acuminatis brunneo-ferrugineis, striga sub-basali interrupta lutescenti, ocello fusco luteo-annulato strigisque nigrae medio marginis interni ad apicem extensa; posticis supra castaneo-rufis, margine postico fusco ocello magno concolori maculam ovalen nigrum includente fulvoque extus annulato. Expans. alar. antic. unc. $\frac{3}{5}$.


This species is at once distinguished by the singularly acute calculated form of the fore wings, which peculiarity is probably less strongly marked in the female; supposing as I do that the unique specimen in the British Museum is a male, although the comparatively narrow antennae might seem to indicate the opposite sex. The fore wings on the upper side are dark rich red-brown, the apical margin being dark ashy. They are marked near the base with a much-interrupted and slightly-indicated luteous striga; in the middle is a moderate sized oval ocellus, dark brown, surrounded by a slender ring of pale luteous scales, and with a very small greyish white lunule in the middle; beyond the ocellus is a regular black line running from the apex to a little beyond the middle of the inner margin, where it is marked with a few pale scales. Hind wings on the upper side rich chestnut-red, with the outer margin brown, and clothed with brown hairs along the anal margin; in the middle is a large ring of black, outside of which is a slender circle of fulvous scales, and in the centre is a rather small oval black spot crowned with a slight white lunule. On the under side the wings are dark fulvous-red, with a dusky apical margin, the fore wings with a black central circular spot inclosing a white dot, and the hind wings with a minute white transverse dot visible on the upper side in the centre of the large ocellus. The antennae are short, 26-jointed, each joint (except three or four of the terminal ones) emitting four moderately short branches, gradually shortening towards the tip.

This species seems to approach near, if indeed it does not belong to the subgenus Hyperchiria of Hübner (Verzeichniss, p. 155), Io, Boisduval, the species of which are especially American. The transformations of one of the species (Saturnia Metzli from Mexico) have been recently illustrated by M. Sallé, in the 'Revue de Zoologie,' 2nd series, tom. v. (1853) p. 171. pl. 5.

**Saturnia? Pluto**, Westw. S. alis luridis, cinereo-fuscis, fusco badioque transversim subfasciatis, absque ocellis et lunulis vitreis,
anticis sub apicem emarginatis; posticis elongatis et in caudam latam mediocrem extus oblique extensam, productis.

Expans. alar. ante. unc. 5.

Hab. in partibus calidioribus Americae Meridionalis, Venezuela. In Mus. Westw.

The general colour of the wings of this species is dark brown, with a purplish leaden kind of gloss; the fore wings are traversed towards the base (which is of a rich chestnut colour) by two nearly straight chestnut fasciae, followed by a shorter one of the same colour covering the transverse veinlets at the extremity of the discoidal cell, a short distance beyond which is another straight fascia of the same colour; half way between which and the tip of the wing are two dull sooty fasciae, diffused towards the costa, and condensed in the middle of the wing into two closely approximated strigae; beyond the outer of these strigae the broad margin of the wing is chestnut-brown, the spaces between the veins being of a greyer tint; the hind wings are of a more uniform brown colour, with a broad darker brown central fascia, and the wide outer margin redder brown, preceded by a greyish cloud. The fore wings are somewhat falcate, being truncate at the tip, with a rather deep emargination below the extremity; the hind wings are elongated, the anal angle rounded off, and the outer margin is produced into a wide tail three quarters of an inch long, extending outwardly; the outer margin between the tail and the outer angle has two moderately deep and wide emarginations. The body is small and slender, of an uniform greyish brown colour, without a distinctly coloured grey fascia in front of the thorax.

The antennæ in the only specimen I have seen (which I believe is a female, notwithstanding the slenderness of the body) are rather short, and composed of forty-two short joints, each producing two short pectinations on each side; these pectinations gradually decrease in length from the base to the extremity, where the antennæ are quite thin and acute. The palpi are rather broad, and the spiral maxillæ are distinct, but very slender and weak.

The costal vein of the fore wings extends about three-fifths of the length of the costa; the postcostal vein emits a branch at about one-third of the length of the wing, which runs close behind the costal and beyond it almost to the tip of the wing; the discoidal cell extends rather more than one-third of the length of the wing; it terminates transversely, the postcostal vein emitting a second branch at its anterior termination; this second branch is furcate at a short distance beyond the cell, the upper division of the fork extending to the tip, the lower division to the outer margin below the tip, and the postcostal itself extending to the upper angle of the emargination below the apical truncature of the wing; the transverse vein closing the discoidal cell emits a vein from its centre, and joins the third branch of the median vein at a short distance beyond its origin; the hind wings have the branches of the median vein arising near the anal margin of the wing, and the discoidal cell is closed by a very oblique veinlet, which emits a vein above its middle, which vein extends to the anterior extremity of the tail of these wings.
Saturnia Thibeta, Westw. S. alis anticis flavis, squamis gris-seis, præsertim pone medium, variegatis, striga angusta valde obliqua prope basin; omnibus ocello fere æquali, ovali, medio, extus fulvo, puncto nigro incluso; pone medium lineis daubus contiguís valde undulatis, macula parva nigra obliqua strigaque carneá obliqua contigua, subapicenibus; postícis basi subcarneó, medio flavo variegatis, striga arcuata inter basin et medium lineisque tribunal obscurationibus pone ocellum, fascia lata submarginali griseo-fusca lunulisque fulvis externis. ♂

Expans. alar. antic. une. 5.


This species is closely allied to the Sat. Simla, Westw., figured in the 'Cabinet of Oriental Entomology,' pl. 20. fig. 1, but differs both in the colour and the position of the markings. The fore wings are yellow, much varied with grey scales, especially at the base of the costa and beyond the middle: at a short distance from the base a slender red striga runs very obliquely across the wing. In the middle of all the wings is a moderate-sized oval ocellus, with a small black dot in the middle, marked on its inner edge with a curved white line, the outer part being liver-coloured, edged with a black ring. Outside the ocellus the wings bear a darker fulvous, ill-defined, very oblique fascia, followed by two slender very strongly undulating dark lines; the undulations being much stronger towards the tip of the wing, where the outer one is connected with a white curved line, like a U, which ends on the costa in an oval black patch, and is bounded on its outside by a slender rich red-brown line; parallel and near the apical margin is an interrupted slender black striga, followed by a row of submarginal fulvous oblong spots. The ocellus of the hind wings is preceded by a curved dark brown line, and is followed by three slender very much undulated lines, the two next the ocellus being chestnut and the outer one black; beyond the last is a broad greyish fascia edged outwardly with a slender interrupted black line, followed by a row of fulvous oblong sublumulatuated spots. Beneath the wings are similarly marked but more uniformly coloured, being fulvous buff without the grey scales.

The antennæ are about 32-jointed, each joint emitting two branches on each side, the branches of the central joints being moderately elongate and gradually diminishing in length to the tip of the antennæ. The body, legs and antennæ are fulvous yellow, the front of the thorax with a grey band.

Saturnia Melvillae, Westw. S. alis sulphureo-fulvis, anticis versus basin obscure angulato-fasciatis ocello parvo medio rotundato in medio vitreo carneo bicingulato, fascia lata subcinerea intus striga undata fusco-ferruginea et extus serie macularum ejusdem coloris inclusa; postícis ocello minimo caco carneo, fascia subcinerea versus costam obliterata similiter inclusa. ♂

Expans. alar. maris une. 4½.

Hab. in Melville Island. In Mus. Hope.

This species agrees in the general orange colour of its wings with
S. Lavendera, as well as in the small size of the round ocelli in the middle of all the wings; but the slightly ashy fascia on the wings, between the ocellus and the apical margin, is much more uniform in width and nearly straight; the fore wings are slightly but acutely hooked at the tips; the fore margin is ashy coloured, as is also the fore margin of the thorax; in the middle of the discoidal cell is a scarcely distinct light-brown angulated fascia, which is continued (although much nearer the base) across the wing to the inner margin, being also angulated in this portion; in the middle of the wing is a small round ocellus, the centre being vitreous, edged with bright red, succeeded by a ring of buff, which is surrounded by another slender ring of red; at a short distance beyond the ocellus is a reddish brown undulated striga running across the wing, nearly parallel with the apical margin, the waves following the same direction as in S. Lavendera, and not as in S. Jorulla; this striga forms the inner margin of a moderately wide greyish fulvous space, which is inclosed on its outside by a corresponding row of reddish brown lunular spots, the one next the costa being the widest; the moderately wide apical margin is uniformly pale orange. The hind wings have a very indistinct curved fascia at some distance from the base, darkest next the anal margin, as is the case with the other markings of these wings. The central ocellus is not above half the size of that of the fore wings; the centre consists of a small round bright claret-red dot inclosed within an orange ring, and this within a very fine red one. This is followed by a rather strongly dentated striga of reddish brown, followed by a row of small lunular spots of the same colour, the inclosed space being irrinated with grey atoms.

The antennæ are fulvous-red and broadly feathered.


(Mollusea, Pl. XXI.)

Genus Chamostrea, De Roissy. (Pl. XXI. figs. 4–7.)

(Oleidothoræus, Stutchbury.)

Animal irrégulier, enveloppé d’un manteau mince bordé d’un muscle orbiculaire étroit; les bords simples joints dans presque toute la circonférence; une très petite ouverture antérieure située à l’angle antérieur et inférieur du manteau un peu au dessous de l’extrémité du muscle adducteur antérieur; deux siphons postérieurs dépassant à peine les bords du manteau; ils sont un peu comprimés et entièrement séparés; leur bord terminal est simple; deux muscles adducteurs très inégaux, l’antérieur très long, très étroit, occupant presque toute la hauteur du côté antérieur de l’animal; muscle postérieur plus court et plus épais; pied petit, comprimé, linguiforme; bouche très petite, accompagnée de quatre petites palpes labiales
étroites, courtes, pointues, triangulaires. Une seule branchie de chaque côté du corps ; elle est fort épaisse, transverse, un peu oblique, divisée en deux parties inégales par un sillon ; elles embrassent la masse abdominale et le pied contracté ; l’osselet appendiculaire de la charnière compris dans l’épaisseur du manteau et des organes abdominaux.

Le genre Chamostrea indiqué par de Roissy a été caractérisé d’une manière plus précise par Blainville dans son Traité de Malacologie ; quelques années plus tard Mr. Stutchbury en donna de nouveau une description plus complète, et imposa au genre un nom sous lequel il a été plus généralement connu, celui de Cleidothærus.

La coquille, type du genre, ayant offert dans la charnière, ce fait remarquable d’un osselet isolé fixé par le ligament, attira l’attention des naturalistes, et presque tous, frappés d’une telle particularité, se laissèrent entraîner à classer le genre, non d’après l’ensemble des caractères comme le prescrivent les règles de la science, mais d’après un seul à l’exclusion des autres.

La Chamostree n’est pas la seule coquille dans la charnière de laquelle on rencontre un osselet calcaire attaché au ligament. Mr. Turton le premier, dans son bel ouvrage sur les Coquilles bivalves de l’Angleterre, fit voir dans son genre Lyonsia un petit osselet quadrangulaire, aplati, fixé au ligament interne entre deux petits cuillerons écarts. Deux ans plus tard nous faisions la même observation sans connaître encore l’ouvrage du savant que nous venons de citer, et nous proposions la famille des Osteodesmes, dans laquelle nous introduisions les genres Thracia, Leach, Anatina, Lamarck, Periploma, Schumacher, Lyonsia, Turton, à côté duquel nous avons laissé notre genre Osteodesma pour des Lyonsia équivalves peu régulières et fort baillantes en arrière.

Cette famille, fondée sur l’ensemble des caractères des animaux et de leur coquille, ne pouvait d’après nous recevoir d’autres genres, et lorsque les genres Myodora et Mæra furent plus complètement connus, quoi qu’ils eussent un osselet à la charnière, ils ne furent point admis dans la famille des Osteodesmes ; cependant d’autres conchyliologues les y avaient rangés. La connaissance des deux genres dont nous venons de parler, nous porta à penser que la présence de l’osselet cardinal, n’est point l’indice d’une organisation semblable, et n’entraîne pas nécessairement dans un même groupe tous les genres qui offrent ce caractère. Si pour nous les Myodora ne sont pas des Osteodesmes, à plus forte raison les Chamostrea et les Myochama, ce dernier genre avec sa coquille irrégulière, ne peut cependant s’éloigner beaucoup de la famille des Osteodesmes, parce que l’animal est pourvu de deux siphons assez longs, pour lesquels existe un muscle rétracteur qui laisse son empreinte sur la coquille.

A l’égard du genre Chamostrea jamais nous ne l’avons admis, comme tant d’autres conchyliologues, dans la famille des Osteodesmes ; il nous a toujours paru plus rapproché des Cames, et c’est dans la famille des Camacées de Lamarck que nous l’avons récemment placé. La forme irrégulière de la coquille, la manière de s’attacher aux rochers, les impressions musculaires, et celle du manteau indiquaient
chez l'animal des mœurs semblables à celles des Cames, et par con-

séquent une organisation analogue.

Les caractères que je viens d'exposer de l'animal du Chamostrea

prouvent que j'avais placé ce genre dans ses rapports les plus naturels. Les Cames en effet sont des animaux irréguliers qui ont trois ouver-
tures au manteau; l'ouverture antérieure est la plus grande, et les

siphons sont très courts, presque réduits à de simples perforations*. Voilà les différences extérieures les plus considérables. Quant aux

organes plus profondément cachés ils présentent aussi dans les deux
genres quelques différences importantes; ainsi le pied des Cames est
cylindracé, coudé vers son extrémité; il rappelle par là un peu et de
loin celui des Cardium; dans les Chamostrea cet organe est très petit,
comprimé, linguiforme; les palpes de la bouche sont plus petites dans les Cames, mais les branchies sont

presque semblables dans les deux genres, un seul feuillet branchial

épais tombant de chaque côté du corps, et enveloppant non seulement
la masse abdominale, mais encore le pied lorsqu'il est contracté.

De ce qui précède nous concluons:—

1. La présence de l'osselet dans la charnière d'une coquille bivalve

est une caractére qui peut se reproduire dans des familles fort éloignées
par leur organisation.

2. Le genre Chamostrea doit venir se ranger dans la famille des

Cames de Lamarck, ou constituer à côté d'elle une petite famille
distincte, fondée sur ce triple caractére d'une coquille à osselet card-
dinal, d'un animal à manteau presque complètement fermé, et portant
un pied comprimé et linguiforme.

**Genre Glauconome**, Gray. (Pl. XXI. fig. 2.)

Animal ovale, oblong, transverse, à manteau mince; muscle or-
biculaire du manteau assez large et peu épais; bords simples, mem-
braneux, portant à l'intérieur une double lèvre très courte; les lobes
du manteau soudés dans la moitié postérieure de leur longueur; si-
phons allongés, réunis dans toute leur longueur, un peu comprimés de
ehaut côté, inégaux en diamètre, et un peu inégaux en longueur;
le siphon branchial plus large et plus long, garni sur son bord d'un
rang de tentacules courts et cylindracés; ouverture du siphon anal
simple. Muscles adducteurs des valves petits et fort écartés; pied
petit, aplati, sublancéolé. Bouche petite; palpes labiaux très grandes,
avales, lancéolées, paraissant lisses en leur face interne, quoique cou-
vertes de stries transverses extrêmement fines et obsolètes. Branchies
très inégales, presque lisses ou à peine plissées; la branche interne
très allongée, assez large, trapézoidale, terminée en pointe du côté pos-
térieur; branche externe très petite, près de moitié plus courte et
plus étroite.

J'ai vu deux espèces qui offrent exactement les mêmes caractères.

Institué par Mr. Gray dans le premier fascicule de ses Spicilegia
Zoologica le genre Glauconome a été adopté par tous les conchylo-
logues. Il devait en être ainsi, car les coquilles qu'il renferme ont

* Dans les Chamostrea l'ouverture antérieure est presque nulle, mais les siphons

sont un peu plus longs.
des caractères très distincts, parfaitement appréciés par le savant auteur de la nouvelle coupe générique. En présence des caractères assez ambigus de la coquille, il était presque impossible aux zoologistes d’avoir une seule opinion au sujet du classement du genre dans la méthode, aussi on pourrait le dire sans trop d’exagération que chacun se laissa guider par sa propre inspiration. Pour faire cesser l’incertitude il fallait étudier l’animal qui jusqu’ici est resté inconnu.

En examinant la riche collection de mollusques conservés dans l’alcool que possède Mr. Cuming, il me montra plusieurs individus très bien conservés de deux espèces de Glauconome, et grâce à l’esprit éclairé de ce conchylologue distingué, il comprit l’intérêt scientifique des recherches que je me proposais de tenter, et il consentit à m’abandonner plusieurs individus de sa collection. Il s’agissait en effet de savoir si les Glauconome avaient les Venus, comme le pensent le plus grand nombre, ou s’il se rapproche des Solen comme le croyait quelques classificateurs. Il est actuellement évident par les caractères que nous venons d’exposer, que le genre dont nous nous occupons n’appartient par aucun caractère au groupe des Vénéridées. Si il existe dans cette famille des genres chez lesquels les siphons sont réunis (Dosinia, Clementia et Chione), tous sans exception ont les lobes du manteau désunis dans toute la longueur du bord inférieur. Chez ces genres les siphons étant d’une longueur relativement médiocre, la sinuosité palléale est généralement large et courte ; dans les Glauconome au contraire cette impression est étroite et très profonde, ce qui annonce des siphons longs et grèles comme ceux des Tellines ou des Psammobies ; cependant ce n’est pas à ce groupe qu’appartiennent les Glauconome, leurs siphons sont longs, mais ils sont réunis, tandis que la famille des Tellinides est caractérisée par des siphons longs mais désunis dans toute leur longueur. Il faut donc chercher ailleurs les rapports naturels des Glauconome ; nous trouvons dans la famille des Solens quelques mollusques qui ont une véritable analogie avec celui qui nous occupe, mais tous les Solénacés sont caractérisés par le développement considérable de l’organe locomoteur ; dans les Glauconome au contraire cet organe est fort petit, et il se rapproche infiniment plus de celui des Lutraires. En considérant dans leur ensemble les caractères des deux genres on leur trouve la plus grande somme de ressemblances ; il n’est pas à dire pour cela que les Glauconome soit pour nous des Lutraires, chaque genre conserve des caractères propres et constituent des familles distinctes, mais ils ne peuvent être très éloignés l’un de l’autre dans une méthode naturelle.

Les Glauconome comme les Lutraires ont les lobes du manteau réunis dans la moitié au moins de la longueur du bord inférieur ; comme dans les Lutraires les siphons sont fort longs et réunis dans toute leur longueur, seulement ils sont plus grèles dans les Glauconome. Le pied a une forme semblable dans les deux genres, plus long en proportion dans les Lutraires, mais dans ce dernier genre les palpes labiales sont très longues, étroites, pointues, les branchies sont étroites et très alongées surtout en arrière ; ces organes importants sont plus larges et autrement disposés dans les Glauconome. Si l’on
veut faire entrer aussi pour quelque chose les caractères des coquilles dans la distribution des genres et des familles, on arrivera facilement à cette conséquence,—que si les deux genres que nous venons de comparer ont des ressemblances, ils offrent aussi des différences qui justifient pour eux la création de deux familles distinctes mais peu éloignées.

**Genus Clementia (C. papyracea).** (Pl. XXI. fig. 1.)

Animal ovale, ayant le manteau mince, épaissi sur le bord par le muscle orbiculaire; le bord simple, sans tentacules, bilabié à l'intérieur; ouverture palléale grande, s'étendant du muscle adducteur antérieur à la base des siphons. Siphons grêles, réunis dans toute leur longueur, coniques, aplatis latéralement, inégaux en diamètre, distincts au dehors par une ligne déprimée, terminés par une ouverture petite et simple; une valvule membraneuse simple et transverse devant l'ouverture interne du siphon branchial; pied petit, subquadrangulaire, comprimé, un peu allongé en avant. Bouche petite; palpes labiales inégales, allongées, triangulaires, très finement lamellées à leur face interne; branchies petites, très inégales, obliques, le feuillet interne le plus grand, subquadrangulaire et presque entièrement découvert; feuillet externe trapézoïdal, attaché par le milieu de sa surface.

Le genre *Clementia* a été créé par Mr. Gray pour une coquille singulière rapportée générale à la famille des *Venus*; elle en offre les caractères les plus essentiels, seulement contrairement aux autres *Venus*, le test reste mince, fragile et sans couleur. En examinant l'intérieur des valves on y aperçoit un grand sinus palléale triangulaire obliquement ascendant comme dans le plus grand nombre des *Dosinia* (*Artemis, Poli*); ce caractère nous faisait soupçonner que dans l'animal des *Clementia* les siphons devaient être réunis; c'est en effet ce qui a lieu. Ainsi que nous venons de le voir par la description de son animal, le genre *Clementia* a tous les caractères des autres *Vénérïdées*; mais de tous les genres de ce groupe c'est des *Dosinia* qu'il se rapproche le plus, et c'est à leur suite qu'il doit venir dans un arrangement naturel de la famille. Sans doute les caractères des *Dosinia* et des *Clementia* ont beaucoup d'analogie, ils prouvent que ces mollusques dépendent d'une même famille, mais ils diffèrent assez entre eux pour justifier leur séparation comme genres.

Nous ne terminerons pas sans ajouter que nous devons la connaissance de l'animal du genre *Clementia* à la libérité de Mr. Cuming, qui le premier en a rapporté de beaux exemplaires de son voyage aux Philippines. C'est également à cet amateur zélé des sciences conchyliologiques que nous sommes redevables de la connaissance de l'animal des *Circe* et de celui des *Capses*, sur lesquels nous croyons utiles de donner quelques renseignements.

**Genus Circe, Schum.** (Pl. XXI. fig. 3.)

Le genre *Circe* de Schumacher renferme des coquilles semblables à celles des autres *Cythérèes*, avec cette seule différence, que l'impression palléale est simple et non sinuose en arrière comme dans les
Cythèresproprement dites. Il s’agissait de savoir si au point de vue de l’organisation des animaux, ce caractère des coquilles avait une valeur réelle; l’examen des animaux pouvait seul faire cesser le doute, et nous nous sommes exprimé de profiter de la collection de Mr. Cuming pour faire l’anatomie de plusieurs espèces de Circe appartenant aux deux principaux groupes du genre (*Circe scripta*, Linn. et *C. testudinalis*, Chemnitz). Ces animaux ne diffèrent en rien de celui des *Meretrix*; le manteau est ouvert dans toute la longueur du bord inférieur, il est pourvu en arrière de deux siphons courts et déstumis (du moins dans l’état de violette contraction), le pied est linguiforme, aplati, il est semblable à celui des *Venus* et des *Cythères*; il en est de même des palpes et des branchies. De cette identité, parfaitement constatée pour nous, entre les *Meretrix* et les *Circe*, nous conclurons que ce dernier genre doit rentrer dans le premier à titre de simple division; en réunissant les espèces des deux groupes on voit s’établir entre elles une transition insensible dans la transformation des formes extérieures.

**Genus Capsa**, Brug.

Le genre *Capsa* de Bruguier, non de Lamarck, créé pour le *Venus deflorata* de Linné, a été récemment placé par Mr. Gray dans la famille des Vénéridées, puis, plus récemment encore, séparé en une petite famille distincte par le même naturaliste; il transporte cette nouvelle famille dans le voisinage de celle des *Tellines*. Pour nous, depuis longtemps les *Capsae* nous paraissaient beaucoup plus voisines des Psammobies, mais il fallait étudier l’animal pour décider définitivement de la place qu’il doit occuper dans la série méthodique. Il résulte de nos observations que l’animal du *Capsa deflorata* ne diffère en rien d’essentiel de celui des Psammobies; il est même permis de douter si le genre *Capsa* devra rester dans une méthode où les coupures génériques sont fondées sur des caractères d’une égale importance.

**EXPLICATION DES FIGURES.**

*Pl. XXI.*

Fig. 1. *Clementia papyracea*, Gray. *a* a, muscle orbiculaire du manteau; *b*, les siphons; *c*, ouverture du siphon branchial; *d*, ouverture du siphon anal; *e*, le pied; *f*, le muscle adducteur antérieur; *i*, muscle adducteur postérieur; *j*, les palpes labiales; *k*, feuillet branchial interne; *l*, feuillet branchial externe; *m*, muscle rétracteur des siphons.

Fig. 2. *Glaucocorne Cerea*, Reeve. (Les mêmes lettres désignent les parties semblables à celles de la figure précédente; il faut ajouter) *c*, ouverture interne des siphons et l’éperon qui les sépare; *a*, commissure du manteau au point où les lobes se réunissent.

Fig. 3. *Circe dinaricata*, Chemn. *a a*, le manteau appliqué sur la surface interne de la coquille; *a’,* commissure du manteau; *b*, base des siphons cachée par l’appendice postérieur du manteau; *c*, siphon branchial; *d*, siphon anal. (Les autres lettres comme dans les figures précédentes.)

Figs. 4, 5, 6, 7. *Chamostrea albida*, Desh.

Fig. 4. Animal entier auquel manque la partie centrale et membraneuse du manteau. *a a*, muscle orbiculaire du manteau; *b*, portion membraneuse; *c*, point où sont situés les siphons; *d*, muscle adducteur antérieur des
1. Clementia papyracea, Gray
2. Glauconome Cerea Reeve
3. Circe divaricata Chatham
4. 6. 7. Chamaostrea aulidaa Desh
valves; e, muscle adducteur postérieur; f, le pied; g, les palpes labiales; h, les branchies.

Fig. 5. L'animal un peu grossi. a, lambeau du manteau; b, portion du muscle orbiculaire; c, partie du muscle antérieur; d, le muscle postérieur; e, le pied; f, la masse abdominale; g, les palpes labiales; h, surface interne des branches; i, j, extrémité postérieure des branchies.

Fig. 6. Bord postérieur du manteau montrant les siphons. a, portion du muscle orbiculaire; b, c, bords libres du manteau recouvrant les siphons; c, d, siphons dans l'état de contraction.

Fig. 7. Ouverture du manteau vue à l'intérieur. a, b, portion du muscle orbiculaire; c, extrémité du muscle adducteur antérieur; d, ouverture paliéale de grandeur naturelle.


By Arthur Adams, R.N., F.L.S. etc.

(Mollusca, Pl. XX.)

Harpa striatula, A. Adams. (Pl. XX. figs. 7, 8.) H. testa ovato-ventricosa, tenui, spira brevi, apice acuto, lineis rubris et fuscis zicaciformibus varie picta, costis longitudinilibus angustis, laxibus, postice valde aculeatis et undulatis, interstitiis stris elevatis, longitudinalibus et transversis, conspicue decussatis; apertura ampla; labio nitido, binaculoso; labro tenui, acuto.

Hab. —? Mus. Cuming.
A thin, light, ventricose species, with strongly aculeate ribs, and the interstices conspicuously striated.

Harpa solidula, A. Adams. (Pl. XX. figs. 9, 10.) H. testa ovato-ventricosa, solida, crassa, nitida, spira brevi, apice acuto, roseo, fascia lata fusca transversa, et lineis rufo-fuscis undulatis varie picta, costis longitudinalibus crassis, postice aculeatis, lineis fuscis, transversis ornatis; apertura elongato-ovali; labio callo nitido, incrassato obrecto; labro crasso.

Hab. —? Mus. Cuming.
This is a thick solid species, less elongated than H. minor, and with much thicker ribs.

Metula Cumingii, A. Adams. (Pl. XX. figs. 1, 2.) M. testa ovato-fusiformi, spira subacuta, apice cancellato, fulvescente, castaneo-nebulosa, longitudinaliter plicata, transversim striata, stris antice distinctioribus, plicis crassis, postice crenulatis, antice evanidis; apertura angusta, utrinque coarctata, antice subcanaliculata, intus aurantiaca; labio callo crasso, circumscripto; labro margine acuto, crenulato, extus valde incrassato, intus transversim lirato.

The discovery of this shell forms an interesting addition to the little-known genus Metula, which is probably an African type, and
an inhabitant of deep water. The species here described is of a much more ovate form than those already known, and is only cancelled near the apex of the spire. The circumscribed inner lip and mitri-form appearance will at once mark the genus *Metula*.

**Holcostoma.** (Nov. gen.)

Shell ovate, thin, spire short, acuminate; suture channelled; aperture obpyriform, posteriorly canaliculated, anteriorly emarginate; columella arcuated, smooth, with a posterior callosity; outer lip expanded, the margin everted, posteriorly free and ascending on the body-whorl.

This peculiar form, which we have here characterized as generic, most resembles *Planaxis* in texture and general character, but is at once distinguished from that genus by its short channelled spire, by the peculiar form of the aperture, and by the solution of the peritreme at the junction of the outer lip and last whorl.

**Holcostoma setigerum,** A. Adams. (Pl. XX. fig. 5.) *H. testa ovata, semipellucida, fusco-cinerea, fascia lata, lutescente, et linea angusta, rufo-fusca ornata, transversim sulcata, subcis setis aureolis, elongatis, epidermicis, in seriebus transversis dispositis ornatis.*


The surface is beautifully ornamented with long golden bristles, arranged in transverse rows.

**Morum xanthostoma,** A. Adams. *M. testa oblonga, subcylindrico-conoidali, spira depressa, complanata, nigro alboque variegata, dorso tuberculis rotundatis in seriebus quinque dispositis; apertura angusta, intus lutea; labio granuloso, expanso; labro extus incrassato, recto, antice inclinato, intus valde dentatolirato.*


**Oniscia tuberculata,** Sow., var. *a*, Reeve, Conch. Syst.

This species, which has been confounded with *M. tuberculatum* of Sowerby, figured in the 'Genera' of that author, and twice figured as a variety of that species by Mr. Reeve, is at once distinguished by its conoid form, yellow aperture, and flattened spire, characters which are constant and specific. I have used the name *Morum* as restricted to the tubercular species of the genus *Oniscia*.

**Vanicoro rugata,** A. Adams. *V. testa orbiculato-ovata, subglobosa, crassa, albida, spira subproducta, longitudinaliter valde plicata, anfractu ultimo plicis irregularibus, longitudinalibus et liris subgranulosis, transversis, prominentibus decussata; apertura rotundato-ovali; labio arcuato, postice et antice dilatato; umbilico mediocri; canali subpatulo, arcuato.*

*Hab.* — ?
This species somewhat resembles *V. Petitiana*, Recluz, in sculpture, but is of a different form, and the spire is elevated.

**VANICORO QUOVIANA**, A. Adams. (Pl. XX. fig. 4.) *V. testa parva*, solid, subglobosa, orata, alba, spira para, depressa, costis longitudinalibus, crassis, remotis, et liris elevatis, transversis valde clathrata, interstitiis transversim striatis; apertura semiovata; columnella recta, postice expansa, antice subdilatata; umbilico profundo; canali subangusto, arcuato.  
*Hab.* Chusan (Benson).

A small, widely clathrated species, most nearly resembling in sculpture *V. clathrata*, Recluz, but it is very solid, and deeply pitted throughout.

**PHOS LIGATUS**, A. Adams. *P. testa ovato-fusiformi, rufo-fusca, albido variegata, spira acuminata, costis subdistantibus, longitudinalibus, liris elevatis, transversis decussata; apertura oralis, antice producta; columnella antice uniplicata; labro intus lirato, antice sinuato.  

This species is of a rust-brown colour, varied with white; it is fusiform, and the ribs appear as if crenulated, owing to the decussation of the transverse ridges.

**PHOS Plicatus**, A. Adams. *P. testa ovato-turrita, spira acuminata, pallide fusca, anfractibus convexiisculis, in medio angulatis, costis crassis, longitudinalibus, et liris elevatis transversis (ad costas tuberculatis) ornata, costis, prope labrum, confertis, frequentibus; apertura ovata; columnella transversim corrugato-plicata, antice fusco maculata; labro margine rufo-fusco.  

**PHOS FLOSUS**, A. Adams. *P. testa ovato-fusiformi, spira acuminata, fulvescente, costis longitudinalibus, prominentibus, liris angustis, rufo-fuscis, transversis, elevatis, (ad costas nodulosis) ornata; apertura ovata, antice producta; columnella uniplicata; labro simplici, intus lirato.  

This species resembles, in some particulars, the *Phos retecosus* of Hinds; it may possibly be the same in a young state.

**PHOS FASCIATUS**, A. Adams. *P. testa ovato-fusiformi, spira acuminata, albida, rufo-variegata, anfractibus convexiisculis, fascia rufo-cinerea cinctis, ad suturas rubro cinctis, costis pliciformibus, longitudinalibus, et liris crassis, distantibus, transversis valde decussatis; apertura ovali; labio antice triplicata; labro intus albo lirato.  

A very pretty, banded species, of distinct form and sculpture.
Colina. (Nov. gen.)

Shell elongated, slender, acuminate, tumid in the middle, tapering at each end, whorls rounded, longitudinally ribbed, transversely striated; aperture oval, canal short, recurved; columella oblique, outer lip expanded, reflected.


This genus is chiefly known by its being tumid in the middle, and by its expanded outer lip.

Colina pupiformis, A. Adams. (Pl. XX. fig. 14.) C. testa elongato-turrita, acuminata, apice truncata, in medio tumida, pallide fulva, anfracibir convexiusculis, in medio subangu- latis, suturis tuberculis moniliformibus, costis longitudinalibus, et liris transversis, elevatis, (ad costas tuberculatis) ornatis, costis in anfractu ultimo obsoletis; apertura elongato-ovali; columella obliqua, simplici; labro antice expanso.


Hipponyx granulata, A. Adams. (Pl. XX. fig. 3.) H. testa capuliformi, lateribus compressis, apice postico, valde declinato, rufescente, granis albis, oblongis, in seriebus longitudinalibus dispositis, ornata, transversim lineis concentricis subflexosis striata; basi convexo, antice et postice sinuato; apertura margin crenulato; intus rufo-fusa.


This curiously-formed species of Hipponyx was attached to the spine of a Cidaris: it forms an oblong testaceous plate with thickened edges, and the margin of the aperture is adapted to the semi-cylindrical surface of attachment. At first sight this species has very much the appearance of a Pedicularia.


(Mollusca, Pl. XX.)

Genus Pyramidella, Lamarck.

Tentacles auriform, dilated, eyes sessile at their inner bases; mantle with a short anterior siphonal fold; operculum elongate, transverse, subspherical at one end, the columellar margin sinuated.

Shell turreted, longitudinally ribbed; spire elevated, whorls angulated, numerous; aperture semi-oval, anteriorly subcanaliculated; columella curved, with three plaits, outer lip acute.

In this analysis the genus Pyramidella is restricted to the longitudinally ribbed species; the smooth ones form the genus Obeliscus.

Our information regarding the animal is derived from a specimen
of *Pyramidella auris-cati*, Chemn., preserved in spirits, in the Cumingian Collection.

The *Pyramidillae*, according to our observations, conceal themselves, like the *Olivce*, under small heaps, which they raise; and they may be traced by the trails they leave behind them in the sand.

*Pyram. corrugata*, Lam., belongs to this genus, but I am unacquainted with the species.

1. **Pyramidella auris-cati**, Chemnitz.


2. **Pyramidella glans**, Reeve.


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Remarkable for its subulate form and umbilicus: its styliform apex is formed of transparent nuclear volutions, the first of which is placed as in the genus Chemnitzia.

7. **Pyramidella nitida**, A. Adams. *P. testa ovato-pyramidali, alba, nitida, anfractibus convexiusculis, longitudinaliter costellatis, costellis angustis, rectis, subdistantibus, levibus, interstitiis subcrenulatis, anfractu ultimo basi producto; aperture obliqua, semiavata, antice subcanaliculata; columella plicis tribus, plica antica duplicata, instructa.*

*Hab. —?* Mus. Cuming.

A small, white, neatly sculptured species, with the anterior colleticular fold double.

8. **Pyramidella gracilis**, A. Adams. *P. testa parva, aciculato-turrita, albida, nitida, linea fusca supra suturas ornata, anfractibus planis, longitudinaliter costatis, costis rectis, distantibus, interstitiis levibus; aperture ovali, antice subcanaliculata; labio supra calloso, in medio plica valida instructo.*


A small, slender, nearly acicular species, somewhat resembling a *Chemnitzia*, but with all the generic characters of *Pyramidella* proper.

9. **Pyramidella variegata**, A. Adams. *P. testa elongato-pyramidali, alba, rufo-fusco maculata et variegata, anfractibus septem, planiusculis, longitudinaliter costatis, costis parvis, subconfertis (interstitia equantibus), interstitiis concinque clathratis; aperture semiavata, obliqua, antice subcanaliculata; columella triplicata; labro extus incrassato.*

*Hab. Island of Masbate, Philippines, 7 fathoms, sandy mud.* Mus. Cuming.

A pretty variegated species, with small, slightly-elevated, regular longitudinal ribs.

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8. **Contributions towards a Monograph of the Genus Chemnitzia.** By Arthur Adams, F.L.S. etc.

*(Mollusca, Pl. XX.)*

**Genus Chemnitzia**, D’Orbigny.

Animal with a broad head, ending in a narrow bilobed snout, furnished with a retractile proboscis; tentacles auriform, their inner bases connate; eyes at the inner sides of their base; fore part of foot with a prominent fold or mentum; foot short, lanceolate, opercular-gerous lobe with a small conical process on each side.

Shell turreted, of many whorls, longitudinally ribbed, apex of the spire with a persistent embryonic sinistral shell forming the summit; aperture oblong or subquadrate, columella toothless, or with an ob-
lique plait, nearly straight; operculum horny, pyriform, subspiral at one end.

In the present list I have restricted the genus *Chemnitzia* to those species which are longitudinally ribbed, and in which there is no tooth on the columella: when there are teeth, they belong to *Pyramidella* properly so called. The smooth species with teeth are *Obelisci*, and those without teeth *Eulimellae*: the *Odostomiae* are ovate, with a single tooth.

1. *Chemnitzia elegantissima*, Montagu.


*Hab.* British Islands and Mediterranean.

2. *Chemnitzia formosa*, Jeffreys.


*Hab.* Britain.


*Hab.* British Islands and Mediterranean.


*Hab.* British Islands.


—*Odostomia scalaris*, Jeffreys.


*Turritella interrupta*, Totten.


truncata, Flem.—Terebra formosa, Bean.—Pyramis indistinctus, Brown.—Chemnitzia curvicostata, Searles Wood.—Odostomia indistincta, Jeffreys.


10. **Chemnitzia obliquata**, Philippi.


*Hab.* Mediterranean.

11. **Chemnitzia pallida**, Philippi.


*Hab.* Mediterranean.

12. **Chemnitzia densecostata**, Philippi.


*Hab.* Mediterranean.

13. **Chemnitzia turritella**, Pfeiffer.

*Parthenia turritella*, Pfeiff.


15. **Chemnitzia costulata**, Migels.


*Hab.* United States.


*Hab.* Ceylon, deep water (Dr. Gardner). Mus. Cuming.

The three bands and striated ribs will distinguish this species: the sculpture is much finer than in *Chemn. lirata*, from the same island.

17. **Chemnitzia Boholensis**, A. Adams. *C. testa subulatocylindracea*, pallide fusca, anfractibus rotundatis, costis flexuosis, simplicibus, subconfertis, interstitiis (sub lente) transversim striatis; apertura subquadrata; columella recta.—Long. ¾ poll.

This small species is distinguished from *Chemn. cornea* by the rounded whorls and straightness of the columella: the ribs are also flexuous.

18. *Chemnitzia lirata*, A. Adams. *C. testa aciculata, subcy-lindrica, albida, anfractibus planulatis, sutura profunda, costis rectis, distantibus, lineis elevatis, transversis decussatis, inter-stitiis liris transversis, elevatis clathratis, anfractu ultimo sulco transverso ad partem anteriorem; apertura ovali; columella cur-vata.*—Long. $\frac{1}{4}$ poll.

*Hab.* Ceylon, deep water (*Dr. Gardner*). *Mus.* Cuming.

The ribs are crossed with coarse raised lines, and the interstices strongly clathrated.


Chiefly distinguished from *Chemn. Boholensis* by its large size and flattened whorls: the columella, moreover, is arched, and the aperture oval.

20. *Chemnitzia concinna*, A. Adams. *C. testa cylindraceo-aciculata, gracili, alba, anfractibus rotundatis, costis rectis, simplicibus, subconfertis, interstitiis punctatis; apertura subqua-drata; columella superne plicata.*—Long. $\frac{1}{3}$ in.

*Hab.* Island of Bohol, Philippines, 60 fathoms. *Mus.* Cuming.

This is a small, elongated, semipellucid species, with the ribs prominent and the interstices apparently punctate, owing to spiral transverse lines.

21. *Chemnitzia fusca*, A. Adams. *C. testa turrito-lanceolata, nitida, rufo-fusca, anfractibus rotundatis, superne subangulatis, sutura profunda, costis angustis, simplicibus, frequentibus, inter-stitia æquantibus, interstitiis levibus; apertura subquadrata; colu-mella plica obliqua.*—Long. $\frac{1}{2}$ poll.


A small, shining, red-brown species, with convex whorls and numerous thin ribs.

22. *Chemnitzia varicosa*, A. Adams. (Pl. XX. fig. 15.) *C. testa magna, turrito-subulata, pallide fusca, fasciis ruñis, pallidis ornata, anfractibus planulatis, varicosis, costis frequentibus, confertis, rectis, liris elevatis, transversis decussatis; interstitiis lineis elevatis, transversis clathratis; apertura subquadrata; columella recta, torquata.*—Long. 1 poll.


A large, thin, brown, decussated species, with a prominent varix on each whorl.

23. *Chemnitzia candida*, A. Adams. *C. testa turrita, subu-lata, candida, anfractibus convexiusculis, costis simplicibus, flexuo-
sis, rotundis, confertis, postice prope suturam tuberculatis, interstitiis levissimis, anfractu ultimo subangulato, basi convexiuscula, lavi; apertura subquadrata; columella recta, superne flexuosa.—Long. \(\frac{1}{2}\) poll.

An elegant white species, somewhat pyramidal in form, and with simple sculpture.

24. *Chemnitzia acicularis*, A. Adams. *C. testa cylindraceo-aciculata, alba, anfractibus planulatis, costis rectis, simplicibus, distantibus, interstiliiis levissimis; apertura subquadrata; columella recta, oblique plicata.*—Long. \(\frac{1}{2}\) in.

*Hab.* Loay, island of Bohol, hard clayey sand, 60 fathoms. *Mus.* Cuming.
A small acicular species, with the ribs wide apart and the interstices plain.


1. *Hindsia*, n. g.

*Shell* ovately fusiform; spire acuminated; whorls longitudinally ribbed and cancellated; aperture ending anteriorly in a long recurved canal; inner lip thin, circumscribed, transversely corrugately plicated; outer lip grooved internally.

*Animal* with the tentacles connate at the base; with the eyes near their distal ends; foot anteriorly produced, ending behind in a simple tail without filament.

*Operculum* horny, ovately unguiform, the margin entire.

*Obs.*—This genus partakes of the characters of several recognized forms. Its animal, however, differs from that of *Triton* in the approximated tentacles, with the eyes near their ends, and the anteriorly produced foot; from that of *Nassa* in the tail not being bifurcated; and from *Phos* in the absence of the long, single, caudal filament. In its shell, it may be known from *Phos* by its recurved canal; from *Nassa* by its circumscribed inner lip and elongated canal; and from *Triton* by its want of irregular varices.

1. *Hindsia acuminata*, Reeve, sp.


2. *Hindsia nivea*, Pfeiffer, sp.

*Triton niveus*, Pfeiffer; Reeve, Conch. Iconica, pl. 17. fig. 75.


*Triton nassoides*, Reeve, Conch. Iconica, Mon. Triton. pl. 20. fig. 96.


*Triton carduus*, Reeve, Conch. Iconica, Mon. Triton. pl. 19. fig. 95.
5. Hindsia egregia, Reeve, sp.  
Triton egregius, Reeve, Conch. Iconica, Mon. Triton. pl. 18. fig. 78.

H. testa elongate ovata, spira producta, acuminata, alba fusco sparsim nebulosa, anfractibus rotundatis, sutura profunde canaliculata, costis longitudinalibus rotundis (in anfr. ultimo novem), lineisque salientibus, transversis, in paribus dispositis, decussatis, costis infra suturas productis et angulate nodosis; columella varicosa, antice valde producta; labro intus lirato, canali ad dorsum curvato.  
Hab. Malacca. (Mus. Cuming.)

H. testa elongate ovata, acuminata, alba, sparsim fusco maculata, anfractibus rotundatis, costis longitudinalibus, rotundis, (in anfractu ultimo decem,) liris aequidistantibus, salientibus, ad costas nodulosis, lineisque elevatis, interpositis, decussatis; columella transversim corrugatorplicata; labro intus valde lirato; canali ad dorsum inclinato.  
Hab. —? (Mus. Cuming.)

H. testa elongate ovata, spira producta, acuminata, rufo-fusco, albocincta, et variegata, anfractibus rotundatis, sutura subcanaliculata; costis longitudinalibus, rotundis, (in anfr. ult. duodecim,) lineisque elevatis, acqualibus, transversis, duabus mediis ad costas elevate tuberculatis; costis infra suturas rotundatis; columella transversim corrugata, antice producta; labro intus lirato, canali ad dorsum valde curvato.  
Hab. Philippines; Sorsogon. (Mus. Cuming.)

H. testa ovato-fusiformi, rufescente, albido-varicosa; spira acuminata, anfractibus octo, costis longitudinalibus et liris elevatis transversis (ad costas nodulosis) ornatis; lateribus varicibus spiraliter dispositis instructis; apertura ovali, antice in rostro canaliculato, producto terminata; labio transversim rugoso; labio extus marginato, intus valde sulcato.  

2. Cyclostrema, Marryat.

1. Cyclostrema granulata, A. Adams.  
C. testa orbiculato-depressa, late umbilicata, alba, costis transversis, granulatis, infrimis subplanulatis, instructa; anfractu ultimo rotundato; umbilico patulo, perspectivo, callo marginato; apertura rotundata; columella sinuata; labro intus incrassato, subcrenulato.  
Hab. Philippines. (Mus. Cuming.)

3. Teinostoma, n. g.

Animal —?  Operculum —?  
Shell orbicular, depressed, subspherical, polished, last whorl rounded at the periphery; umbilical region covered with a large, flat callo-
sity; aperture transverse, rounded, greatly produced and elongated, ending anteriorly in a slightly canaliculated point; inner lip smooth and callous, not emarginate or truncated, anteriorly; outer lip thin, simple, not margined or reflected.


**Hab.** Sancta Elena, 8 fathoms (H. C.). Mus. Cum.

Although but a single species has yet been found, I have made a genus of this singular shell, because I was unable fairly to refer it to any known form. It has resemblances to *Cyclope, Cantia* and *Rotella*, but agrees with neither.


*Animal — ?*

*Operculum* horny, ovate, with imbricated lateral elements.

*Shell* ovate, thick, ventricose; spire short, acute; suture slightly channelled; last whorl with a spiral groove, ending in a notch at the fore-part of the outer lip; columella thickened, with a callosity at the hind part.


1. **Pseudoliva plumbea**, Chemn. sp.

* Buccinum plumbeum*, Chemn. 188. f. 1806, 1807.

2. **Pseudoliva eithiops**, Reeve, sp.


3. **Pseudoliva sepimenta**, Rang, sp.

* Buccinum sepimentum*, Rang, Mag. de Zool. 1832, pl. 18; Kiener, Mon. pl. 18. f. 66.

4. **Pseudoliva striatula**, A. Adams. *P. testa ovata, solida, spira brevi, anfractibus rotundatis, longitudinaliter subplicata, transversim creberrime striata, striis confertis; epidermide fusco tecta; apertura ovali; labio lavi subplanulato; labro intus lavi, antice subemarginato.*

**Hab.** Africa. (Mus. Cuming.)

5. **Pseudoliva zebrina**, A. Adams. *P. testa ovata, solida, spira brevi, acuta, albida, lineis longitudinalibus rufo-fuscis ornata; anfractu ultimo superne nodoso-plicato, transversim sulcato; apertura ovali; labio lavi incurvato; labro intus sulcato.*

**Hab.** Africa. (Mus. Cuming.)


*Eburna australis*, Sow. (Mus. Cuming.)

7. **Pseudoliva (Struthiolaria) monoceros**, Gray (mihi ignota).
8. **Pseudoliva Kellettii**, A. Adams. *P. testa ovata, solida, subperforata, epidermide fusco villose tecta; spira prominula, anfractibus rotundatis, sutura canaliculata, anfractu ultimo transversim sulcato, sulcis postice evanidis, antice valde distinctis, anica profunda, in dente sulcato, ad labrum, terminata; apertura ovali, columella postice callosa, antice flexuosa, producta; labro postice inaequale, antice sinuato-dentato.**

*Hab. ?*

I am indebted for this species to Professor Edward Forbes, who, although himself describing the shells collected during the Voyage of the Herald and Pandora, insisted upon my describing this species when he heard I was preparing a monograph of the genus.

5. **Pyrgula**, Crist and Jans.

**Pyrgula clathrata**, A. Adams. *P. testa turrita, acuminata, alba; anfractibus decem, planulatis, cingulis duabus transversis, costellisque elevatis, longitudinalibus, regulariter clathratis, sutura canaliculata; anfractu ultimo angulato, cingulis transversis quatuor, basi concavo, cingula spirali circa regionem umbilicalem; apertura subquadrata; columella recta, antice subtruncata, rotundata.*

*Hab. Barclayon, Philippines, H.C. North-east Australia, Jukes.*

This is a beautiful species of a small group belonging to the Melaniadce, of which *Melania helvetica*, Desh. is the type.

**Pinaxia**, n. g.


*Operculum —— ?*


*Hab. Philippines. (Mus. Cuming.)*

Mr. Cuming collected three specimens of this curious genus during his researches among the Philippines; in form they resemble *Imbricaria*, in the flattened columella *Purpura*, and in the possession of plait *Turbinellus.*

**Oniscia**, Sowerby.

1. **Oniscia grandis**, A. Adams. *O. testa subtrigono-ovata, spira brevi, acuta, anfractibus convexus, albida, sparsim fusco variegata, costis transversis nodosis lineisque longitudinalibus regulariter cancellata, longitudinaliter plicata, plicis tenuibus, lamelliformibus, aegidistantibus; labio late expanso, granulato; labro valde reflexo, plicis dentiformibus, aequalibus, aegidistantibus, munito.*

A large species, resembling in general appearance *O. cancellata*, but distinguished by the spread and flattened inner lip, the longitudinal elevated plicae, and the regular plication of the outer lip, which wants the intermediate plicae of *O. cancellata*.

10. **A Monograph of Fossar, a genus of Gasteropodous Mollusca.** By Arthur Adams, F.L.S., R.N.

*(Mollusca, Pl. XX.)*

**Fossar, Gray.**

*Animal* with the head proboscidiform, the tentacles filiform, with a head lobe at their inner bases, the eyes sessile on their outer bases, foot moderate, and rounded at both ends.

*Operculum* horny, oval, subspiral.

*Shell* semiglobose, umbilicated; aperture entire, semilunar; inner lip edentulate, never callous; umbilicus open; outer lip acute, smooth within.


Mr. Gray first indicated and named this genus, but to Dr. Philippi is due its proper diagnosis and detailed description.


2. **Fossar costatus**, Broc. p. 300. t. 11. f. 11.


*Hab. Sicily, Borneo, China Sea. Mus. Cum.*


*Hab. ?*

5. **Fossar reticulatus**, A. Adams. (Pl. XX. fig. 13.) *F. testa elevate conica, spira producta, late umbilicata, anf. rotundatis, ultimo subevoluto, sutura profunda, canaliculata, cingulatis, cingulis numerosis transversis, lineis elevatis longitudinalibus eleganter reticulatis; umbilico valde profundo.*


7. Fossar variegatus, A. Adams. *F. testa ovata, late umbilicata, spira brevi acuminata, albida, fusco variegata, cingulis transversis elevatis subgranulosi, ornata, interstiiis planis, umbilico patulo.*


_Hab._ ? Mus. Cuming.

9. Fossar bicarinatus, A. Adams. (Mollusca, Pl. XX. figs. 11, 12.) *F. testa turbinato-depressa, perforata, subevoluta, pallide fusca, spira planiuscula, apice acuto, producto, longitudinaliter substriata, carinis duabus prominentibus, interstitiis transversim striatis ornata; anfractu ultimo basi carinis duabus circa regionem umbilicalis; apertura semiovata, peritremate soluto, labio recto, antice dilatato, sulco transverso, labro biangulato.*


An elegant, partially unrolled species, with a flat spire and two prominent parallel keels.


**Genus Umbonium, Link.**

Animal with the lateral fringe of the foot distinct, with three filaments on each side; on the front of the right side near the base of the tentacles produced into a fleshy lobe; right tentacle free, with the eye-peduncle compressed, and bearing a rudimentary eye; left eye-peduncle cylindrical, with a distinct eye, and furnished with an expansion or frontal lobe, which is folded on itself and fringed at its free margin (Gray). Operculum horny, orbicular, multispiral.

Shell orbicular, depressed, porcellaneous; whorls smooth, polished; umbilical region covered with a large prominent callosity; aperture small, transverse; inner lip rounded, ending in a simple point, outer lip acute.


1. Umbonium vestiarium, Linnaeus.

_Trochus vestiarius_, Linn. Syst. Nat. ed. 12. p.1230.—_Rotella lineo-

**2. Umbonium moniliferum, Lamarck.**
Test. t. 65. fig. ε; Kien. Mon. Rotella, pl. 2. fig. 4, 4a. 

**3. Umbonium suturale, Lamarck.**

**4. Umbonium javanicum, Lamarck.**

**5. Umbonium giganteum, Lesson.**

**6. Umbonium costatum, Valenciennes.**
Rotella costata, Valenc.; Kien. Mon. Rotella, pl. 2. fig. 5. 

**7. Umbonium elegans, Beck.**
Rotella elegans, Beck; Kien. Mon. Rotella, pl. 3. fig. 6. 

**8. Umbonium sagittatum, Hinds.**

**9. Umbonium conicum, Adams & Reeve.**

**10. Umbonium chalconotum, A. Adams.** U. testa orbiculato-conica, imperforata; spira obtusiuscula, anfractibus quinque, planulatis, nitidis, (sub lente) transversim creberrimae striolatis, ultimo, ad peripheriam, valde sulcato, quasi bicarinato, suturis submarginatis; lurida, cuprea-nitente, insima facie planiuscula, striata; callo mediocrum umbilicum obtegente; apertura ovali. 

**Hab.** Island of Ticao, sandy mud, 6 fathoms (H. C.). Mus. Cuming.

**11. Umbonium depressum, A. Adams.** U. testa orbiculato-depressa, imperforata, lavi, nitida, anfractibus planiusculis; albida, lineis irregularibus, longitudinalibus, undulatis, fuscis, confertis, maculisque ornata; insima facie callo albo, convexo, punctulato, umbilicum obtegente, instructa. 

**Hab.** Borneo, on the sands. Mus. Cuming.
12. *Umbonium zelandicum*, A. Adams. *U. testa orbiculato-conoidea, imperforata; spira elata, anfractibus quinque, excavatis, transversim striatis, ultimo subangulato, ad peripheriam sulcato, suturis anguste marginatis; albida, cupreo-nitente, lineis fuscis, undulatis, longitudinalibus, radiatim picta; infima facie planiuscula, striata, albida, cingulo cinereo circa umbilicum ornata; callo mediocri umbilicum obtente, externe sulco spirali impresso; apertura ovali; labio incrassato.*


Subgenus *Ethalia.*

Shell orbicular, turbinately depressed; whorls smooth or transversely striated, convex, rounded at the periphery; umbilicus partly closed by a callous deposit.


Hab. Island of Guam (Quoy & Gaimard); Philippine Islands (Cuming). Mus. Cuming.

14. *Umbonium striolatum*, A. Adams. *U. testa discoidea, subglobulosa, subperforata, transversim striata, anfractibus quinque, convexiusculis; lineis transversis, angustissimis, albido-articulatis ornata; infima facie levi, ad peripheriam rufus-fusco maculata, cingulo rufo circa regionem umbilicalem ornata, callo albo, parvo, umbilicum partim obtene munita; apertura ovali.*


Genus *Isanda*, H. & A. Adams.

Shell porcellanous, orbiculately conoidal, polished; aperture subquadrate, inner lip straight, forming an angle with the outer lip; umbilicus open, perspective, the margin crenulated.

In this genus, which is founded on three undescribed species of shells, the umbilicus is open, and not covered by a callous deposit, as in *Umbonium*, and the margin is crenulated; the texture of the shell is solid and porcellanous, and not thin and nacreous, as in *Margarita*.

*Isanda coronata*, A. Adams. *I. testa orbiculato-conica, umbilicata, levi, nitida; spira obtusa, anfractibus quinque, planis, superne angulatis, et concinne crenulatis; sutura canaliculata; lineis albidis, transversis, et maculis fuscis, in seriebus transversis dispositis, et, ad suturas, fascia alba, lata, ornata; aper-
tura subquadrata; umbilico aperto, perspectivo, margine valde crenulato; labio recto, subreflexo; labro postice angulato.


A beautiful, small, turbinate species, with the whorls elegantly coronated and with their upper part white.

**Isanda lepida**, A. Adams. *I. testa turbinato-conica, albocinerea, polita, unbilicata; spira elatiuscula, anfractibus rotundis, suturis crenulatis; anfracta ultimo ad peripheriam subangulato; umbilico perspectivo, peromphalo, crenato; apertura quadrato- orbiculari; labio rectiusculo.


This is a small species of a somewhat conical form, with the sutures of the whorls crenated, and of an ashy white colour.

**Isanda sulcifera**, A. Adams. *I. testa orbiculato-conoidea, umbilicata, nitida; spira elatiuscula; anfractibus quinque subplanulatis, postice angulatis, et sulco impressis, suprems ad suturas crenulatis et angulatis, ultimo transversim sulcato, ad peripheriam carina filiformi cincto; albida, lineis longitudinalibus, angulatis et undulatis, confertis, ornata; umbilico aperto, perspectivo, intus sulcato, margine crenato; apertura subquadrata; labio subrecto, crenulato.

Hab. Philippines.

In this species there is a conspicuous and deep groove round the upper part of the whorls near the suture.

**Isanda pulchella**, A. Adams. *I. testa orbiculata, depressa umbilicata, nitida; spira depressa, anfractibus quinque, convexiusculis, superne vix angulatis, lateribus, inferne transversis, sulcatis, ad suturas corrugatis; albida, lineolis fuscis, confractis, longitudinalibus, undulatis, maculisque fuscis, radiatim dispositis pulcherrime picta; umbilico patulo, perspectivo, margine crenulato; apertura transversa, subquadrata; labio subcalloso.


The shell in this species is depressed and shaped as in *Umbonium*, but the umbilicus is entirely open, and the margin crenulated.

13. **Observations on some rare Indian Animals.**

By Dr. J. E. Gray, F.R.S., V.P.Z.S.

(Mammalia, Pl. XXXV.—XXXVIII.)

Mr. Hodgson having sent to the India House a specimen, with its skull, of his Tibetan Badger, *Taxidea leucurus* (Journ. Asiatic Soc. Bengal, xvi. 763, 1847), I have compared the skull with those of the various Badgers in the Museum collection. I find that all the Old World Badgers (*Meles*) have a moderate-sized triangular flesh-tooth,
and a very large four-sided oblong tubercular grinder in the upper jaw, which is rather longer than broad; and the skull is rounded behind. The nose of the Tibetan Badger, or Tumphia (*Meles leucurus*), is rather more tapering and more compressed than that of the European Badger (*Meles taxus*), which it most resembles. The Japanese Badger (*Meles aurina*) differs from both in having a much shorter skull, and a short, rather broad nose.

The American Badgers (*Taxidea, Waterhouse*) have a very large triangular flesh-tooth, and an equally triangular tubercular grinder in the upper jaw, the latter not exceeding the flesh-tooth in size; the skull is also much broader, more depressed, and truncated behind. Of this genus I only know a single species, *T. labradora*. The *Taxidea leucurus* of Hodgson is exceedingly like *Arctonyx collaris*, but the fur of the back is longer and more flaccid, and the chin and throat are black, as well as the belly and legs, which is not the case in that species.

Mr. Hodgson, on my informing him that the skull was very different from the *Taxidea* of North America, proposed that it should be formed into a genus under the name of *Pseudeotes*.

The collection of the East India Company also contains skins of the following species, recently presented by Mr. Hodgson, which deserve notice, as several of them are now transmitted by him for the first time.

1. **Helictis Nepaulensis**.

   Dark grey; the forehead and nape black; the nuchal streak long, broad, pure white.

   Differs from *H. Chinensis* in the blackness of the nape, and the distinctness and depth of the colours.

2. **Mustela Strigodorsa**, Hodgson MSS.

   Dark chestnut-brown, with a very narrow streak of a few longer white hairs down the centre of the back; the chin, throat and chest, and a narrow streak down the centre of the belly, pale yellow, becoming whiter in the older specimens; tail slender, about half the length of the body.

3. **Paradoxurus Quadrifasciatus**, Hodgson MSS.

   I cannot see any difference between these specimens and the *P. Musanga*.

4. **Poëphagus Grunniens**. The Yak. (*Mammalia, Pl. XXXV.*)

   The skin of a young calf represented in the accompanying plate is black, with a tuft of long pale yellow hair across the crown of the head; the under side of the body, and the tail, are covered with rather long pale yellow hair; the dorsal streak, which is broader over the withers and rump, and interrupted on the middle of the back, is white.
5. **Budorcas taxicolor.** (Pl. XXXVI.)
A splendid adult male.

6. **Porcula salvonia.** (Pl. XXXVII.)

7. **Felis macroxeloides.** (Pl. XXXVIII.)

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14. **On the Eggs of Otogyps and Prosthemadera.**

By H. F. Walter, Esq.

(Aves, Pl. LVI.)

Mr. H. F. Walter exhibited specimens of the eggs of *Otogyps* and *Prosthemadera nove seelandiae* from his own collection.

The egg of *Otogyps* (Plate LVI. fig. 1) was obtained by Herr Ludwig Parreyss of Vienna from North Africa, and will therefore be that of *O. nubicus* (H. Smith; Bp. ConsP. p. 10), if that species is really distinct from the southern *O. auricularis*. The long diameter of this egg is 3·9, the short diameter 2·8 inches.

The egg of the Parson-bird or Tui, *Prosthemadera nove seelandiae* (Gm.) (Plate LVI. fig. 2), was taken in New Zealand in 1852 by Dr. White. Its colouring is somewhat different from that of the other Honey-eaters with which we are acquainted, not presenting the usual rich red ground-colour which is the general characteristic of the eggs of that family of birds. The long diameter of this egg is 1·0, the short diameter 0·75 inch.
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The names of New Species, and of Species newly characterized, are printed in Roman Characters: those of Species previously known, but respecting which novel information is given, in Italics: those of Species respecting which Anatomical Observations are made, in Capitals.

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Printed by Taylor and Francis, Red Lion Court, Fleet Street.
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H. F. Walter, Esq., in the Chair.

The following papers were read:—

1. Notes on the Habits of Indian Birds.—Part I.
   By Lieut. Burgess.

Order I. RaptoreS.
Family Vulturidæ.
Genus Vultur.

Vultur Pondicerianus. Black Vulture.

This Vulture, as far as I have had opportunities of observing it, is much more common in the Deccan than either the large (Vultur Indicus) or the small brown Vulture (Vultur Bengalensis). I have never, however, seen more than two or three together, and these generally in the neighbourhood of the low ranges of hills which intersect that part of the country. As this bird has doubtless been already figured, it is not my purpose in these notes to enter into any further description of it, but merely to state what I have observed of its habits, food, manner and time of nesting, with any other information regarding it which I may have gained by actual investigation, or learned from credible sources. In its habits the Black Vulture, I should certainly say, is not gregarious; I do not remember to have seen more than four or five together, and then it has been for the purpose of partaking of a social meal. It flies in circles with the wings extended, apparently without motion, and their tips pointed upwards, the legs being stretched out beneath the tail. The food of this Vulture consists of decaying animal substances; one which I shot drinking in a
stream disgorged the entire leg of a cat. They breed during the months of February and March. In my notes taken at the time, I find the following:—"March 7. Found to-day, on the top of rather a low peepul (species of banian tree), the nest of the Black Vulture, on which one of the old birds was sitting. The nest, which was very large, was built of small sticks; it contained one egg. On the same tree a pair of the Black-headed Ibis (Tantalus melanopephalus, Lath.) had also built their nest; it contained four white eggs, very similar to those of the Pelican Ibis (T. leucocephalus)."—"March 19. Shot a male Black Vulture sitting on one egg; the nest was about a yard in circumference, built on the top of a thorny tree; it was composed of the thorny branches and other sticks below it. Among the thorny twigs forming the nest were two small nests, belonging to birds of the Passerine order, containing young." In both these cases only one egg was found, of a pure white colour, $3 \frac{7}{10}$ inches in length by $3 \frac{2}{10}$ inches in width. In a third also, only one egg was found. The natives say that the Black Vulture lays two eggs, containing a male and female bird, but these facts seem opposed to such a statement.

**Genus Neophron.**

**Neophron percnopterus. Egyptian Vulture.**

This is the most common and most efficient scavenger to be found in the cantonments of India. The last-mentioned Vulture feeds only, I believe, on decaying animal substances, but this bird usurps the place of the night-cart, removing the filth that would otherwise cause pestilence under a tropical sun. Any one who has been in India must have observed these disgusting-looking birds, from the young in its black to the mature in their white plumage, stalking with awkward gait in troops about the plains which generally surround an Indian military station, and no one can mistake the errand on which they are there. They breed during the months of February, March, and probably April. I have found their nests most frequently during the month of March. The nest, of a large size, is composed of sticks; in one case it was lined with rags and other refuse. It is generally built on tall trees, especially the banian. I found one on a ledge of rock on the side of a steep hill. The eggs are in general two in number, varying very much in colour, from white spotted with brown to a universal rust or liver-brown, darkest at the large end; $2 \frac{7}{10}$ inches in length by $2 \frac{3}{10}$ inches in breadth. One nest contained two eggs, one nearly white, the other equally brown. The young when first hatched are covered with a whitish-brown down, the down being whitest on the oldest. I give a description of a young bird brought to me on the 15th of April: "Beak and naked skin under the chin and about the gape and beak, dull greenish lead-colour, that over the eyes and on the forehead, lead. Irides dark; a white spot of down on the crown of the head; feathers on the neck and upper part of the body tipped with ferruginous; back upper tail-coverts dull white, tipped with fawn; tail-feathers dull whitish fawn; lesser coverts whitish, tipped with ferruginous brown; quills greenish-black; legs
and feet dull lead-colour; middle toe very long.” In notes taken at the time, I find an entry that I saw an Egyptian Vulture on her nest as late as the 4th of May.

**Family Falconidae.**

**Subfamily Aquilinae.**

**Genus Aquila.**

The eggs of the Eagle forwarded with these notes are those, I believe, of *Aquila fusca*, Gray (identical I imagine with *Aquila nava*, Gould), because that bird is by far the most common of the family in that part of Western India situated above the Ghauts. In the hilly portions of the country this bird may be seen perched on some elevated point of rock, sitting motionless, baking in the rays of the early sun; in the plains a solitary tree is almost sure to have one of them on its topmost branch. After the sun has been up some two or three hours, it commences its search for food, consisting chiefly, I believe, of hares. A Mharatta of high family, who had a very considerable knowledge of the habits of the birds of the country, told me that when an eagle discovers a hare in her form, which is generally in the grass at the foot of a bush, she will strike the bush with her wings to drive her victim out, before striking at it. That a large portion of this eagle's food consists of hares, I can attest, having found their skulls and bones in a nest. The nest, of a large size and composed of sticks, is built on tall trees; it contains two eggs, $2\frac{7}{10}$ inches in length and $2\frac{1}{10}$ inches in breadth, of a white ground, sprinkled over with reddish spots. They commence breeding as early as the latter end of November, and their eggs may be found up to the beginning of April.

**Subfamily Cymindinae.**

**Genus Elanus.**

**Elanus melanopterus.**

I was never able to procure the nest and eggs of this handsome little Kite, but A. F. Davidson, Esq., of the Revenue Survey, a great sportsman and accurate observer of birds, told me that he obtained a young bird of this species and two eggs. The eggs were of a pure white colour, and about as large as the egg of the Indian Blue Pigeon. They were laid during the month of December. The stomach of one of these birds contained a rat.

From the colour of the eggs, and the manner in which the radiating hairs between the eye and beak meet over the ridge of the beak, it has struck me that this bird approaches nearer to the family of the Harriers than that of the Kites. Dr. Jerdon, in his notes, also says that “it frequents long grass and grain fields, over which it may be seen to hover like the Kestrel.”
Subfamily Buteonineæ.

Genus Milvus.

Milvus affinis. Common Indian Kite.

This is one of the most common, if not the commonest bird of prey to be found in India. Over every cantonment, town and village they are to be seen, sweeping round in graceful circles, ever and anon making a swoop, as their quick eye describes some offal thrown out from cook-room or hut, seizing it in their claws without alighting, and making their repast on the wing. So sudden and bold is their dash, that in two cases which occurred amongst my own servants, a Kite pounced on the contents of a plate which a servant was bringing from the cook-room, and was off almost before the man knew who the thief was, and whence he came. On another occasion the theft was not confined to meat, for either a silver fork or spoon was thus whipped up, and the thief, after being chased by the affrighted servant, and scared by his shouting, dropped it in a neighbouring garden. The poor servant doubtless thought that a Kite would never be suspected of having committed the theft. The food of this bird consists of every kind of animal refuse; and in providing two such efficient scavengers as this Kite and the Egyptian Vulture, in a country where all animal matter begins at once to decay and would form a constant source of pestilence, the hand of an all-wise and gracious God is clearly visible. The common Indian Kite builds its nest on tall trees, during the months of February, March and April. I saw a bird building as late as the 18th of April. The nest is composed of sticks, and contains as many as three eggs. I never found more than that number. The eggs are \( 2 \frac{3}{2} \) inches in length and \( 1 \frac{1}{2} \) inch in breadth, varying a good deal in colour, but generally of a whitish ground, more or less blotched and spotted with reddish-brown; in some the markings are chiefly at the large end, in others at the small.

Milvus Pondicerianus. Brahminy Kite.

The eggs of this fishing Kite I have never seen, but I transcribe a note of its nest and young: “Feb. 27, 1850. Found the nest and two young birds of a species of fishing Hawk; the young ones were covered with whitish down, that on the back of a pale brown colour. The nest, formed of sticks and lined with mud, was built on a tall tree on the banks of the Bheema River, where these birds are common.” As far as my observations go, I should say that this bird is decidedly a fishing Hawk. I have never seen it but either sailing along the course of a river or in the vicinity of water.

Genus Pernis.

Pernis cristata?

I have not been able to ascertain anything relating to the nesting or the eggs of this Buzzard, but I was informed by a Mhar who saw it, of a curious habit of this bird; that when about to feed on a
comb, these birds spread their tail, and with it drive off the bees before attacking it. This was told me by a villager in a portion of thickly-wooded country where these birds are common.

**Genus Buteo.**

**Buteo Teesa, Gray.**

This is one of the commonest Hawks in the Deccan. Its plaintive cry may be heard in almost every tope of trees. It is easily distinguished by its white throat and silvery-white eyes. Dr. Jerdon, in his ‘Catalogue of Birds of India,’ says: “It frequents topes as well as open country, where it may be seen seated on low trees and bushes, an ant-hill, or the banks of rivers, whence it pounces on mice, lizards, small snakes, and various large insects and their larvæ.” In the stomach of one of these birds I found a small snake entire, said to be of a very venomous kind, and a large locust; in that of another the remains of a full-grown rock quail. I am not aware whether the eye of all or most of the *Falconidae* is strengthened by a ring of bony plates, as is the eye of the Golden Eagle, but it is the case in this bird. The Teesa breeds during the months of March, April and May. The nest is composed of sticks laid on the forked branches of the babool, mango and other trees. It sometimes contains as many as four eggs, $1\frac{5}{6}$ inch in length and $1\frac{5}{6}$ inch in breadth, white, spotted and dashed with brown.

I am very much inclined to think that the Teesa migrates during the monsoon, and returns to the Deccan about September, as I used not to hear its peculiar cry from the end of May to the middle of that month. Mr. Elliot, in his notes, mentions that *Circus cyaneus* and *Falco peregrinus* also migrate during the hot season and monsoon. I never noticed any of the Harriers about until September or October. The name of the Teesa in Mharata is ‘Surudmar,’ and in Hindostani, ‘Girgootmar,’ meaning in both languages, I believe, ‘the destroyer of lizards.’ This name also applies, or is applied, to the Kestrel Black-wing (*Elanus melanopterus*), and Harriers.

The eggs sent with the others, I believe are those of one of the Harrier family, but of which I am unable to say. Most probably they belong to *Circus cyaneus* or *Circus Montagu*, as these are the most common. *Circus cyaneus* (*C. pallidus*, Sykes) is exceedingly common in the Deccan. In the grass lands amongst the hills, where quails abound, I have observed these birds beating particular spots of ground in the most regular manner, and when shooting, have found such spots to yield the best sport. I was told by a gentleman of the Civil Service, an ardent sportsman, that when shooting near Belgaum, many of the quails have been carried off by the Harriers before the beaters had time to secure them. They will fly over a plot of grass land, scanning every foot of it, and in the most careful manner beat the hedges and strips of bush and grass between the fields. They feed on lizards, mice, and small birds. I have been told that these birds remain to breed in the Deccan.
**Subfamily Falconinae.**

**Genus Falco.**

**Falco luggur.**

Of the true Falcons, the Luggur is the most abundant on the table-lands of Western India. The top of a tall tree in the midst of cultivation is its favourite resort. It breeds during the months of March, April, and probably May, making its nest, like that of all the birds of prey, of twigs and sticks on a tall tree, and lays four eggs, $1\frac{9}{10}$ inch in length, and $1\frac{6}{10}$ inch in breadth, of a reddish-white ground, spotted with two shades of reddish-brown, and thickly mottled with red-brown at the larger end; some are of a more yellow colour. As the plumage of the young birds has been already noted, any further description is unnecessary. In the stomachs of two birds of this species I found the remains of lizards.

**Falco chicquera.**

This handsome little Falcon is also common in Western India. It is a bird of rapid flight, and peculiarly active and energetic in all its movements. The natives told me that it is a great enemy to the sparrows, killing numbers of them. Its shrill scream quite betokens its fierce character. Like the last-named Falcon it lays four eggs, smaller in size, of a yellow-brown, mottled with a darker shade of the same colour, particularly at the larger end; in length $1\frac{4}{10}$ inch, and nearly $1\frac{4}{5}$ inch in breadth. It breeds during the months of February and March.

**Falco tinnunculus. Kestrel.**

I have not been able as yet to discover whether this bird breeds in the Deccan or not.

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**2. Description of a New Species of Cypris.**

By W. Baird, M.D., F.L.S.

In a collection of shells procured some years ago by the British Museum, from M. Parryss of Vienna, were two species under the name of Nuculina, the *N. donaciformis* and *N. triangularis*. Neither of these, however, belong to the Mollusea, both species being Entomostracans, and belonging to two totally different genera. The former I have described and figured in the *Proceedings of the Zoological Society* for 1849, (p. 89), under the name of *Estheria donaciformis*; the latter is the one now under consideration. It belongs to the genus *Cypris*, and I propose naming it *C. triangularis*. It may be characterized thus:

**Cypris triangularis.**

Shell or carapace of a triangular form, smooth and shining, of a transparent green colour; anterior and posterior extremities nearly of equal size; centre of carapace very gibbous; left valve overlapping the other at the lower margin.


Genus Ellobium, Bolten.

Head ending in a snout; tentacles subcylindrical; eyes situated at their inner bases. Pulmoniferous; respiring free air. Living on the land.

Shell oblong-oval, covered with a brown epidermis; spire short, obtuse; aperture narrow, elongated; inner lip with 2-3 large anterior plaits; outer lip thickened internally.

Otis, Humph., not Linn.—Auricula, Lamk., not Klein.—Auriculus, Montf.—Marsyas, Oken.—Geovula, Swains.

The animals of this genus resemble in their habits those of Pythia, Bolten (Scarabus, Montfort), living in salt marshes and mangrove-swamps.

1. Ellobium auris-Midæ, Linnaeus.


2. Ellobium auris-Judæ, Linnaeus.


3. Ellobium subnodosum, Metcalfe.


4. Ellobium politum, Metcalfe.


5. Ellobium Sheepmakeri, Petit.

Auricula Sheepmakeri, Petit, Journ. de Conch. i. p. 404.


7. Ellobium tornatelliforme, Petit.


8. Ellobium pallidum, Sowerby.

Auricula helvacea, Phil. Zeitschr. für Malacozool.

10. Ellobium elongatum, Parreyss.  

11. Ellobium subula, Quoy & Gaimard.  

E. testa oblongo-ovali, crassiuscula, pallide fusca, nitida, spira elata, obtusa, anfractibus convexiusculis, postice decussatim striatis, ad suturas marginatis, ultimo longitudinaliter strigato; apertura oblonga; columella triplicata, plica postica evanida; labro vix incrassato, postice vix sinuato.  

E. testa oblongo-ovali, crassiuscula, pallide fusca, nitida, spira elata, obtusa, anfractibus quinque, convexiusculis; apertura oblonga, angusta; columella triplicata, plica postica evanida; labro acuto, simplice, postice coarctato.  
Hab. —— ?  Mus. Cuming.

E. testa elongato-ovata, crassa, levi, nitida, alba; spira elata, anfractibus quinque, convexiusculis; apertura oblonga, angusta; columella triplicata; labro incassato, postice tenui et valde sinuato.  

E. testa subulato-cylindracea, spira obtusa, apice eroso, olivacea, levi, nitida, anfractibus planis, longitudinaliter plicatis, ultimo postice plicato, antice levigato; apertura angusta, postice coarctata; columella triplicata, plica postica valida, spirali; labro acuto, simplice, postice coarctato.  

E. testa subulato-ovata, alba, nitida, levi, spira producta, apice acuto; apertura oblonga, angusta; columella subcallosa, triplicata, plica postica valida, anterioribus parvis, obliquis; labro margine subincrassato, postice vix sinuato.  

17. Ellobium oryza, H. & A. Adams.  
E. testa elongato-ovali, alba, solida, nitida; spira elata, acuta; anfractu ultimo fascia alba, opaca cincto; apertura angusta; columella triplicata, plica postica valida, anterioribus parvulis, subobsoletis; labro intus incrassato vix bilirato, postice subsinuoso.  
Hab. Island of Annaa, Society Islands, under loose coral, high water.  Mus. Cuming.
18. **Ellobium Oparicum**, H. & A. Adams. *E. testa subulato-ovali, gracili, lœvi, fulva; spira elata, apice acuto; apertura angusta; columella antice vix truncata, triplicata, plica postica valida, duabus anterioribus subobsoletis, oblatis; labro acuto, simplice.*


19. **Ellobium semisculptum**, H. & A. Adams. *E. testa oblongo-ovata, subfusiformi, spira elata, obtusiuscula, pallide fusca; anfractibus convexiusculis, superne lineis granulosis, confertis, transversis, inferne lœvibus, anfractu ultimo superne granuloso, inferne (sub lente) minutilissime granulato; apertura oblonga, antice dilatata; columella bisplicata, plica postica valida, spirali; labro antice iatus marginato, postice tenui, subsinuato.*

*Hab.* Gambier’s Islands, South Seas. Mus. Cuming.

**Genus Melampus, Montfort.**

Foot bifid posteriorly.
Shell ovato-conical, spire short, obtuse; aperture narrow, linear; inner lip with several transverse plaits; outer lip acute, internally plicate.

*Pedipes,* Blainv., not Adams.—*Melampa,* Schweigg.—*Conovula,* Féruss.—*Conovulus,* Lamk.—*Conovulum,* Sow.

1. **Melampus coffeus**, Linneus.


2. **Melampus Umlaasianus**, Krauss.


3. **Melampus fuscus**, Philippi.


4. **Melampus flavus**, Gmelin.


*Auricula Tabogensis,* C. B. Adams, *Shells of Panama,* p. 211. no. 314.

7. **Melampus pyriformis**, Petit.  

8. **Melampus pallescens**, Sowerby.  


*Auricula coronulus*, C. B. Adams, Contrib. to Conch.


12. **Melampus lividus**, Linnaeus.  


14. **Melampus luteus**, Quoy & Gaimard.  

Subgenus *Tralia*, Gray.

Foot posteriorly acute, entire.  
Shell ovate, smooth; spire elevated; aperture narrow, linear, dilated anteriorly; inner lip usually with three oblique plaits; outer lip acute, sinuated posteriorly, internally with one or more transverse elevated ridges.

15. **Melampus (Tralia) pusillus**, Gmelin.  

*Auricula Panamensis*, C. B. Adams, Shells of Panama, p. 209. no. 312.
17. Melampus (Tralia) olivula, Moricand.

   *Auricula infrequens*, C. B. Adams, Shells of Panama, p. 209. no. 311.


20. Melampus (Tralia) pellucidus, Cooper.


23. Melampus (Tralia) maurus, Mühlfeldt.

24. Melampus (Tralia) elongatus, Petit.

25. Melampus (Tralia) angiostoma, Deshayes.
   *Auricula angiostoma*, Desh. Encycl. Méth. Vers, ii. p. 92. no. 16; Mag. de Zool. 1830, i. tab. 11.

   *Auricula Floridiana*, Shuttleworth.

27. Melampus (Tralia) cingulatus, Pfeiffer.

28. Melampus (Tralia) globulus, Férussac.

29. Melampus (Tralia) pulchellus, Petit.
30. Melampus (Tralia) granifer, Mousson. 

31. Melampus (Tralia) costatus, Quoy & Gaimard. 

32. Melampus obovatus, H. & A. Adams. _M. testa obversim conica, basi attenuata, spira obtusa, nitidiuscula, corneo-fusca, saeius fasciis inaequalibus transversis ornata, longitudinaliter strigosa; anfractu ultimo basi transversim striato, postice gibboso; apertura angusta; columella biplicata, plica postica valida, transversa; labro acuto, intus bilirato._ 
_Hab. Liberia (Dr. Parkins). Mus. Cuming._

33. Melampus Zealandicus, H. & A. Adams. _M. testa ovata, cornea, castanea, subpellucida, nitida, longitudinaliter strigosa; spira elevatiuscula, apice acuto; anfractibus planis, ultimo postice subgibboso; apertura angusta; columella biplicata, plica postica validiori; labro margine acuto, intus valde lirato, liris multis albidis._ 
_Hab. New Zealand. Mus. Cuming._

34. Melampus commodus, H. & A. Adams. _M. testa oblongo-ovata, castanea, nitidiuscula; spira elata, acuta; anfractibus longitudinaliter plicatis, ultimo levigato, vel substrigato; apertura angusta, oblonga; columella antice uniplicata; labro acuto, intus liris tribus elevatis, transversis instructo._ 
_Hab. New Zealand. Mus. Cuming._

35. Melampus Liberianus, H. & A. Adams. _M. testa oblonga, ovato-conica, spira brevi, olivaceo-fusca, fasciis pallidis, transversis, inaequalibus ornata, levigata, nitidiuscula, postice et antice transversim striata; apertura angusta, in medio coarctata; columella biplicata, plica antica subobsoleta; labro acuto, in medio in-fixo, intus multilirato._ 
_Hab. Liberia, W. Africa (Dr. Parkins). Mus. Cuming._

36. Melampus costellaris, H. & A. Adams. _M. testa ovata, brunnea, longitudinaliter costata; spira subelevata, apice obtuso; anfractu ultimo postice vix angulato; apertura oblonga; columella biplicata, plica postica transversa, valida; labro acuto, antice incrassato, albido-marginato, intus levi._ 
_Hab. New Zealand (Mr. Strange). Mus. Cuming._

37. Melampus (Tralia) nitidulus, H. & A. Adams. _M. testa elongato-ovali, lavissima, fusca, spira elata; apertura angusta, elongata; columella triplicata, plica postica callosa; labro margine vix incrassato, intus unilamellato._ 
_Hab. Island of Bohol. Mus. Cuming._
38. **Melampus (Tralia) mitralis**, H. & A. Adams. *M. testa elongato-ovali, spira producta, apice obtuso, livido, pallide castanea, fusco-fuscata, levi, nitida; anfractibus suprernis longitudinaliter plicatis, ultimo basi subgibboso; apertura angusta; columella antice uniplicata, plica spirali; labro acuto.

*Hab. ——? Mus. Cuming.*

39. **Melampus (Tralia) exaratus**, H. & A. Adams. *M. testa ovata, fusca, spira elata, apice obtuso; anfractibus planis, transversim liratis, longitudinaliter decussatim striatis; apertura oblonga, in medio subdilatata; columella biplicata, plicis validis, postica spirali; labro margine acuto, in medio subangulato.


4. **Descriptions of New Species of Shells, from the Collection of H. Cuming, Esq.**

By M. G. P. Deshayes.

1. **Batissa insignis**, Desh. *B. testa ovato-orbiculari, oblique inaequilaterali, tumida, tenui, intus violacea, epidermide nigrovirescente, nitida vestita, in latere antico late sulcata, sulcis remotis, ad lunulam septius inter se conjungentibus; umbonibus prominentibus, erosis, antice inclinatis; cardine angusto, obliquo, inaequaliter tridentato; dentibus in valva sinistra angustioribus, mediano bifo, in dextra crassioribus, simplicibus; dentibus lateraliibus angustius, postico valvae sinistriae laminato, apice regulariter serrulato.

*Hab. Calamang, Island of Luzon, Philippines.*

2. **Batissa triquetra**, Desh. *B. testa trigona, obliqua, inaequilaterali, cuneiformi, leevigata, epidermide nigra vestita, depressiuscula; margine antico rectilineo, postico valde convexo, dilatato, inferiore vix arcuato; umbonibus profunde erosis; lamina cardinali angusta, dentibus cardinalibus tribus, inaequalibus, brevibus, subcanaliculatis; lateralibus elongatis, angustis, subaequalibus, antico cardine adnato, postico remoto; valvis tenuibus, intus albis.

*Hab. Philippine Islands; Australia.*

3. **Batissa producta**, Desh. *B. testa suborbiculari, valde obliqua, inaequilaterali, depressiuscula, crassa, solida, transversim late et obsolete plicata, vel subundulata, epidermide polita, atrovirescente vestita, intus superne alba, postice inferneque violacea; umbonibus magnis, productis, antice obliquatis; cardine lato, crasso, valde obliquo, inaequaliter tridentato, dentibus majoribus superne obsolete canaliculatis, lateralibus validis, antico crasso, obsolete rugoso vel striato, postico compressore et paulo longicre; latere antico brevi, rotundato, postico dilatato.

*Hab. Philippine Islands.*
4. Batissa lenticularis, Desh. B. testa orbiculari, tantum alta quam lata, æquilaterali, subsquatina, lenticulari, turgi-dula, epidermide nitidissima, atro-virescente vestita, lineis lon-gitudinalibus, tenuissimis, obsoletis irregulariter in medio radiata, intus albo-violacea; latere antico posticum æquante et æqualiter obtuso; cardine angusto, tridentato; dentibus majoribus superne canaliculatis, mediano valve dextrae majori; dentibus lateraliibus subequalibus, antico crassiore, tenue rugoso, postico laminato, obsoleti striato; umbonibus parvis, acutis, integris, oppositis.
Hab. Philippine Islands (Cuming).

5. Batissa Corbiculoides, Desh. B. testa oblique triangulari, inæquilaterali, tumida, crassa, solida, epidermide squalide viridi-fuscescente vestita, transversim inæqualiter sulcata et striata; umbonibus productis, erosis, obliquis; lunula angulo obtusissimo notata, magna, ovato-lanceolata, lævigata; area posticali rugis irregularibus, obsoletis, divaricatis corrugata; cardine lato, crasso, inæqualiter tridentato, dentibus compressis, divergentibus, simplicibus, dentibus lateraliibus sicut in Corbi-culis elongatis, angustis, tenue striatis, antico paulo breviori; valvis intus albis, in margine postico violaceo-maculatis.
Hab. New Guinea (Jukes).

6. Batissa humerosa, Desh. B. testa trigona, inæquilaterali, cuneiformi, superne gibbosa; transversim inæqualiter striato-sulcata, epidermide nigrescente vestita, intus alba, in medio pallide purpureo tincta; latere antico rectilineo, valde declivi, inferne obtuse angulato, margine dorsali leviter concavo, declivi, margine inferiore parum arcuato, rugis aliqüibus in latere postico divergentibus; umbonibus profunde erosis; cardine lato, tridentato, dentibus inæqualibus, simplicibus, medianis majoribus; dente laterali antico cardine adnato, irregulariter corrugato, postico longiore, angustiore, striis brevibus notato.
Hab. New Guinea.

7. Batissa Megadesma, Desh. B. testa ovato-transversa, magna, crassa, ponderosa, inæquilaterali, antice brevi, obtusa, rotundata, fusco-nigrescente late et irregulariter transversim undulata, antice sulculosata; latere supero et postico sulco obso-leto decurrente distincto; ligamento maximo, elongato, cylindraceo, in medio carinato; umbonibus erosis; valvis intus candidissimis; cardine crasso, in utraque valva tridentato, dente posticali valve sinistrae angusto, elongato, dentibus obliquis; dente laterali antico cardine proximo, irregulariter sulcato, posticali angusto, cardine remotissimo.
Hab. —?

8. Batissa atrata, Desh. B. testa orbiculari, sublenticulari, æquilaterali, transversim obsolete striato-sulcata, intus extus-
que aterrime violacea; umbonibus brevis, minimis, oppositis, approximatis, apice decorticatis; valvis tenuibus; cardine augmento, inaequaliter tridentato; dente antice in utrque valva angusto; dentibus lateralibus brevioribus, angustis, oblique sulcato-rugosis; impressione pallii postice leviter inflexa.

Hab. —?

9. **Cyrena inquinata**, Desh. *C. testa orbiculato-trigona, turgida, inflata, subcordinformi, inaequaliaterali, epidermide squalelde fusca, fuliginosa, dense et irregulariter lamellosa vestita; umbonibus tumidis, profunde erosis; margine superiore antico declivi, rectilineo, postico convexiusculo, inferiore subsemicirculari; valvis solidiusculis, intus albis; cardine angusto, arcuato, tridentato; dentibus inaequalibus, brevis, obliquis, parallelis, angustis, parum prominentibus, duobus bifidis; dentibus lateralis minimis, brevis, antico prominentiori; ligamento brevi, partim inosso; impressione pallii prope marginem decurrente.

Hab. China (rivers).

10. **Cyrena fallax**, Desh. *C. testa ovato-trigona, plus minusve tumida, crassa, solida, in medio ventricosa, epidermide squalide fuscescente, ferruginea, in junioribus flavescente vestita, transversim irregulariter striata; latere antico breviore, superne fere rectilineo, declivi, rotundato, inferiore margine postico superiore recto, declivi; extremitate postica sensit attenuata, breviter truncata; area plana, levisigata, angulo obtusissimo circumscripta; cardine satis lato, dentibus tribus inaequalibus, in valva dextra crassioribus, majoribus, bilobatis; dente laterali antico compresso, brevi, postico longiore.

Long. 81 mill., haut. 69, épais. 48.

Hab. Philippine Islands; Australia (Cuming).

11. **Cyrena conjuncta**, Desh. *C. testa orbiculato-trigona, crassa, solida, ventricosa, subaequaliaterali, utroque latere obtusa, rotundata, inferne regulariter arcuata, margine antero-superiore declivi, rectilineo, postico convexo, epidermide viridi, fuscescente, transversim irregulariter tenue lamellosa vestita; umbonibus tumidis, obliquis, brevibus, obtusis, erosis; ligamento brevi, angusto, immerso; valvis intus albis; dentibus cardinales tribus inaequalibus, postico valvae dextra latiore, inaequaliter bifido, mediano eminentiore, acuto, profunde bilobato; dentibus lateralibus parvis, distantibus, antico eminentiore, conico, compresso.

Hab. —?

12. **Cyrena lauta**, Desh. *C. testa ovato-transversa, subtrigona, inaequaliaterali, superne inferneque convexiuscula, postice subtruncata, antice valde declivi, rectilinea, crassa, solida, in medio convexa; epidermide fusca, nitida, tenue irregulariter striata; umbonibus depressis, brevibus, apice acutis, approximatis, saepius erosis; lamina cardinales lata, dentibus cardina-
libus tribus, obliquis, angustis, elongatis, approximatis, fere parallelis, superne canaliculatis, antico valvae dextae dimidia parte breviore; dentibus lateribus subaequalibus, postico valde remoto.

Hab. —?

13. Cyrena similis, Desh. C. testa ovato-trigona, oblonga, inaequilaterali, in medio tumida, transversim distanter striata, epidermide fuscescente, ferrugineo-nitente vestita, umbonibus minimis decorcicatis; latere antico brevi, rotundato, obtuso, latere postico superne convexusculo, declivi, sensim attenuato, extremitate breviter subtruncato; dentibus primaris tribus, duobus subaequalibus, apice inaequaliter bifidis; dentibus lateralis minimis, antico valvce sinistrce conico, depressiusculo, postico longiore.

Long. 77 mill., haut. 65, epaiss. 39.

Hab. Manilla.

14. Cyrena affinis, Desh. C. testa oviformi, ovato-transversa, inaequilaterali, ventricosa, crassa, solida, epidermide tenni, fusco-ochracea, laevigata induta, transversim inaequaliter striata, subcontabulata; umbonibus minimis, depressis, integris, vix prominentibus; latere antico brevi, late rotundato, postico attenuato, obtuso; cardine angusto, dentibus tribus angustis, duobus majoribus profundie canaliculatis, dentibus lateralis minimis, antico acutiusculo, postico valde remoto.

Long. 54 mill., haut. 45, epaiss. 32.

Hab. Australia (Cuming).

15. Cyrena oviformis, Desh. C. testa ovato-transversa, crassa, solida, turgida, inaequilaterali, transversim irregulariter incrementis striata, area lunulacae laevigatis, epidermide tenni, brunnea vel flavescente vestita, antice brevi, declivi, obtusa, postice magis attenuata; latere superiore postico convexiusculo; umbonibus brevibus, depressis, apice acuminati, saepius erosis; ligamento angusto, elongato, vix immerso; valvis profundis, inus albis; cardine angusto, arcuato, inaequaliter tridentato; dentibus diversicatis, duobus in utraque valva inaequalibus, apice bilobatis; dente laterali antico, conico, crasso, prominente, compresso, dente postico longiore, angustiore.

Long. 77 mill., haut. 61, epaiss. 44.

Hab. Basilan, Philippine Islands; Port Essington.

16. Cyrena ventricosa, Desh. C. testa ovato-transversa, sub-trigona, inaequilaterali, in senioribus crassa, solida, ponderosa, in medio turgida, epidermide squalide fuscescente aut rubiginosa, tenni, inferne posticeque breuiter laminolosa et atrata vestita, intus candissimae, antice superne arcuato-declivi, obtusa, postice sensim attenuata, truncata, margine superiore dorsali rectilineo, declivi; umbonibus parvis, parum obliquis; cardine angusto, tridentato, dentibus inaequalibus, majoribus
bifidis, subparallelis, dentibus lateralis crassis, compressusculis, postico paulo longiore; ligamento angusto, partim immerso; area posticali planata.

Long. 91 mill., alt. 80, lat. 50.

Hab. Philippine Islands; Australia.

17. **Cyrena mactroides**, Desh. *C. testa* ovato-transversa, depressa, inequilateralis, epidermide viridi-glaucensce et transversim striato-laminata vestita, postice lamellis appressis, imbricatis; umbonibus brevibus, obliquis, approximatis, integris; latere antico brevi, late obtuso, postico superne declivi, attenuato, subangulato; cardine angusto; dentibus cardinalibus compressis, majoribus apice profunde furcatis; lateralis compressis, brevibus, in fossulis angustis profundisque valvulæ dextræ receptis; ligamento angusto, semi-immerso.

Long. 98 mill., alt. 78, lat. 42.

Hab. — ?

18. **Cyrena decipiens**, Desh. *C. testa* ovato-subtrigona, tumida, inequilateralis, parum crassa, epidermide viridi, lamellis transversis, distantibus, crispis instructa vestita, lamellis postice multo numerosioribus, appressis, erectis, umbonibus minimis, decorticatis, vix obliquis; latere antico brevior, superne convexiusculo, declivi, inferne obtuso, postico rotundato; valvis intus albis; cardine angusto, tridentato, dentibus majoribus profunde furcatis, lateralis angustis, compressis, antica valvæ sinistræ furcata, fossula valvæ dextræ antice marginata.

Long. 86 mill., alt. 75, lat. 43.

Hab. — ?

19. **Cyrena pallida**, Desh. *C. testa* orbiculato-trigona, magna, solida, in medio convexa, inequilateralis, antice posticeque declivi, rectilinea, extremitate posticali attenuata, brevi, truncata, epidermide tenui, luteo-flavescente, late striata vestita; umbonibus parvis, obtusis; area posticali plana, angulo obtusissimo circumscripta; ligamento brevi, angusto, partim immerso; valvis solidis, intus candidissimis; cardine angusto, tridentato, dentibus angustissimis, duobus in utraque valva bifidis, dente laterali antico crasso, conico, compresso, posticali elongato, compresso.

Hab. — ?

20. **Cyrena divaricata**, Desh. *C. testa* ovato-subcirculari, inequilateralis, tumida, crassa, solida, epidermide fusco-nigrescente vestita, transversim inaequaliter obsolete striata, rugis undulatis, irregularibus, in latere postico divergentibus; umbonibus obliquis, profunde erositis; latere antico brevior, superne recto, declivi, in medio attenuato, subangulato, latere postico lato, dilatato, obtuse subtruncato; lamina cardinalis lata, plana; dentibus primariis tribus inaequalibus, angustissimis, in valva

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sinistra duobus latis, valde pediculatis, in valva dextra profunde canaliculatis; dentibus lateralibus minimis, antico conico, acuto, postico oblongo, angusto.

Hab. New Guinea.

21. Cyrena sublobata, Desh. C. testa ovato-transversa, subquadrandriangulari, valde inaequilaterali, tumidiuscula, epidermide viridi-nigrescente, transversim striata et laminosa vestita; laminis crispis, inferne posticeque numerosioribus; latere antico brevissimo, declivi, fere rectilineo, inferne obtuso, marginibus superiore et inferiore subparallelis, aequaliter convexiusculis, latero postico late truncato, sulco profundo flexuraque distincta quasi sublobato; cardine angusto, dentibus inaequalibus tribus, valde obliquis, in valva sinistra angustioribus, in dextra valdioribus, apice profunde et inaequaliter bilobatis; dente laterali antico conico, acuto, postico elongato, compresso, extremitate postica remoto.

Long. 100 mill., alt. 85, lat. 50.

Hab. — ?

22. Cyrena sinuosa, Desh. C. testa ovato-rotundata, tumida, cordiformi, solida, valde inaequilaterali, epidermide fusco-fuliginosa, transversim tenue lamellosa vestita; latere antico brevi, rotundato, postico subtruncated, latere supero-posticali sulco profundo, sinuoso, decurrente separato; umbonibus tumidis, brevibus, sepius erosis; ligamento angusto, partim infosso; valvis intus albis; cardine crasso, utroque latere tridentato, dentibus obliquis, mediano et postico valvae dextrae bifidis; dentibus lateralis brevibus, antico crasso, conico, apice acuto.


23. Cyrena impressa, Desh. C. testa ovato-subcirculari, obscure subquadrandriangulari, valde inaequilaterali, turgida, mediocris crassa; epidermide viridi-glaucescente, transversim tenue laminata, postice inferneque atro-virente, lamellis sepius crispis; umbonibus minime, oblique antice curvatis, decoratis, acutis, parum prominentibus; latere antico declivi, rectilineo, inferne obtuso; margine superiore convexiusculo, postico latere subtruncated, sulco impresso ab umbone descendente distincto; lamina cardinali lata, dentibus primariis tribus angustis, elongatis, prominentibus, apice profunde furcatis, dentibus laterali antico conico, brevi, compresso, postico longiori.

Long. 92 mill., alt. 87, lat. 52.

Hab. Java (Jukes); Philippine Islands (Cuming); Australia.

24. Cyrena compta, Desh. C. testa ovato-trigona, ventricosiuscula, subaequilaterali, antice et postice fere aequaliter declivi, antice paulo breviore, rotundato, postice obtuso, paululum attenuato, epidermide tenui, nitente, flavido-virescente, tenue striata vestita; latere postico sulco obsoletissimo notato;
umbonibus minimis, obtusis, decorticatis; cardine angusto, tridentato, dentibus angustis, basi paulo angustioribus, apice profunde bilobatis, lateralibus compressis, antico prominentem, acuto, postico longiore.

Long. 72 mill., alt. 63, lat. 38.

Hab. —?

25. **Cyrena incerta**, Desh. *C. testa ovato-suborbiculari, ventricosa, inaequilaterali, parum crassa, transversim irregulariter striata, striis tenuibus, profundis, epidermide squalide fuscescente, postice nigrescente et nitente vestita; umbonibus minimis, integris, parum obliquis, valde approximatis, lunula in medio prominentem; antico latere brevi, late rotundato, postico declivi, attenuato, extremitate subtruncato; cardine angusto, tridentato, dentibus minimis, angustis, inaequalibus, majoribus profunde furcatis, lateralibus inaequalibus, compressis, antico majore.

Long. 74 mill., alt. 65, lat. 40.

Hab. —?


Long. 73 mill., alt. 67, lat. 38.

Hab. Port Essington (Cuming).

27. **Cyrena Jukesi**, Desh. *C. testa ovato-trigona, turgidula, inaequilaterali, transversim irregulariter striata, epidermide nitida, flavicante, pallide virescente et brevissime laminata vestita; latere antico brevi, superne fere rectilineo, declivi, postico rotundato, superne convexiusculo; valvis intus albis; umbonibus minimis, brevibus, antice obliquatis; cardine angusto, tridentato, dentibus subaequalibus, duobus majoribus apice bifidis, angustis, lateralibus subaequalibus, conicis, compressis.

Long. 66 mill., alt. 52, lat. 34.

Hab. Cape Upstart, Australia.

28. **Cyrena placida**, Desh. *C. testa suborbiculari, sublenticulari, inaequilaterali, in medio turgidula, epidermide squalide fuscescente, tenuissime striata vestita; umbonibus brevibus, erosis, via prominentibus; latere antico breviore, late rotundato, postico truncato, angulo decurrente obtusissimo separato; cardine lato, dentibus inaequalibus, angustis, elongatis,
29. Cyrena dura, Desh. *C. testa ovato-subrotundata, ventricosa, inaequilaterali, crassa, solida, ponderosa, transversim irregulariter striato-rugosa; epidermide squale fuscocernua, impolita; umbonibus minimis, depressis, obliquis, decorticatis; lunula indistincta, in medio producta; cardine angustissimo, tridentato; dentibus tribus primariis inaequilibus, crassis, apice emarginatis; dente laterali antico brevi, conico, acuto, compressusculo, cardine approximato, postico oblongo, depresso, remoto; linea pallii sub impressione musculari postica breviter sinuosa.

Long. 70 mill., alt. 63, lat. 43.

Hab. —— ?

30. Cyrena arctica, Desh. *C. testa trigona, inflata, cordiformi, solidissima, valde inaequilaterali, transversim regulariter striata, epidermide atro-virente nitente, vestita, intus alba, saepius impressionibus muscularibus violaceis; umbonibus magnis, turgidis, obliquis; latere antico brevi, declivi, rotundato, postico attenuato, subtruncato, angulo obtusissimo decurrente notato; cardine angusto, brevi, crasso, dentibus primariis tribus inaequalibus, parvis, approximatis, simplicibus; dentibus lateralis crassis, subcequalibus, prominentibus.

Long. 36 mill., alt. 36, lat. 30.

Hab. Maracaibo.

31. Cyrena æquilatera, Desh. *C. testa trigona, depressiuscula, æquilaterali; lateribus subæqualibus; epidermide squale fusca vel griseo-fuscescente, striata, postice squamosa; latere antico paulo breviore et posticali rectilineis, inferiori parum arcuato; umbonibus parvis, depressis, oppositis, approximatis; latere postico plano, angulo obtusissimo circumdato; valvis tesmiis, intus albis, in fornice pallide aurantiis; cardine angustissimo, tridentato; dentibus parvis, inaequalibus, divaricatis, duobus in valvula sinistra bifidis, dentibus lateralis parvis, remotis, fossula valvae sinistre anguste canaliculata usque ad basin dentis antici.

Hab. Cayenne (rivulets).

32. Cyrena (anomala) insignis. *C. testa ovato-cordiformi, turgida, crassiuscula, inaequilaterali, epidermide fusco-virente, multilaminosa vestita, lamellis crispis, multo numerosioribus ad margines; umbonibus magnis, tumidis, decorticatis, parum obliquis, oppositis; latere antico paulo breviore, late rotundato,
postico lato, truncato, obtuse angulato; cardine angusto, crasso, tridentato; dentibus inaequalibus, divergentibus; lateralibus inaequalibus, antico majore, conico, basi ovali, postico remoto, angusto; valvis intus albis, latere postico violaceo; sinu pallii angustissimo, acutissimo, profundo, oblique ad umbones ascendent.

Long. 50 mill., alt. 44, lat. 35.
Hab. Bay of California.

33. Cyrena subquadrata. C. testa ovato-subquadranigulari, transversa, inaequilaterali, tumida, solidiuscula, transversim tenue et irregulariter striata, stris obsoletis, epidermide viridisflaudcente, ad margines multilaminosa vestita; umbonibus depressiusculis, decorticatis, parum obliquis; latere antico superne parum dilatato, antice oblique subtruncato, postico superne leviter arcuato, oblique late truncato, inferne angulato; cardine satis lato, tridentato, dentibus angustissimis, divergentibus, lateralibus inaequalibus, antico crasso, conico, brevi, postico angustiore remoto; valvis intus albis, in margine postico violaceis.

Long. 45 mill., alt. 39, lat. 30.
Hab. California.

34. Cyrena (anomala) nitidula, Desh. C. testa ovato-transversa, turgidula, tenui, fragili, inaequilaterali, transversim tenue et obsoletis striata, epidermide viridi, subnive, tenuissime laminosa vestita; umbonibus tumidiusculis, acutis, oppositis; latere antico paulo breviore, obtusum, postico superne declivis, parum attenuato, ratundato vel subtruncato; cardine angustissimo, dentibus primariis tribus inaequalibus, angustissimis, divergentibus, majoribus apice anguste fissis, lateralibus subaequalibus, distantibus, minimis, in valta dextra duplicatis, antico crassiore; sinu pallii brevi, triangulari, acuto; valvis intus pallide violaceis, ad margines saturatioribus.

Long. 28 mill., alt. 25, lat. 17.
Hab. —?

35. Cyrena notabilis, Desh. C. testa ovato-transversa, subquadratula, depressiuscula, inaequilaterali, transversim tenue et irregulariter striata, albo-lutescente, sub epidermide tenui, fuscescente; latere antico brevi, obtuso, postico late truncato, superiore et inferiore rectis, parallelis; umbonibus obliquis, integris, approximatis; ligamento elongato, cylindraceo, producto; valvis intus albo-lutescentibus, in latere postico macula intense violacea intus extusque notatis; cardine tridentato, dentibus inaequalibus, obliquis, divaricatis, dente laterali antico parvo, conico, acuminato, postico obsoleto, remotissimo.
Hab. Peru (at the mouths of rivers).

36. Cyrena anomala. C. testa trigona, valde inapta, cordiformi, valde inaequilaterali, tenui, fragili, transversim tenue et
obsolete striata, epidermide viridi, tenue striata induta, striis ad margines et postice laminoso-crispis; umbonibus magnis, acutis, revolutis, oppositis, violaceis; latere antico breviore, late semicirculari, postico attenuato, conico, rostrato, acuminate; area plana, angulo obtusissimo circumscripata; cardine angustissimo, dentibus tribus primariis minimis, approximatis, subaequalibus, divergentibus, mediano profunde fisso; dentibus lateralibus subaequalibus, distantibus, compressis, laminatis, in valva dextra duplicatis, antico sulco profundo margine separato.

Long. 50 mill., alt. 40, lat. 34.

Hab. Bay of Caraccas; Peru.

37. Cyrena (anomala) Cumingii. C. testa ovato-subtrigona, inequilaterali, tumida, cordiformi, satis solida, transversim inaequaliter tenuissime striata, epidermide fusco-virescente, inferior lamellosa vestita; umbonibus magnis, prominentibus, oppositis, decorticatis, approximatis; latere antico brevi, late rotundato, postico attenuato, superne declivato, angulo obtuso, decurrente circumscripto; cardine angusto, in medio paulo latiore; dentibus tribus primariis inaequalibus, approximatis, angustis, apice profunde bifidis, lateribus magnis, aequidistantibus, antico paulo majore, conico, acuto; valvis intus candidissimis.

Long. 60 mill., alt. 52, lat. 44.

Hab. Central America.

38. Cyrena (anomala) Isocardioides. C. testa orbiculato-subtrigona, inequilaterali, turgida, cordiformi, tenui, fragili, tenuissime transversim inaequaliter striata, epidermide olivacea, nigro-zonulata vestita; umbonibus magnis, subinvolutis, oppositis, atro-violaceis; latere antico regulariter late semicirculari, postico superne declivi, attenuato, subrostrato; area plana, ovato-lanceolata, angulo lato, obtuso, decurrente circumscripto; cardine angustissimo, dentibus primariis tribus minutiissimis, approximatis, subaequalibus, duobus anticus parallelis, postico divaricato; dentibus lateralibus minimis, subaequidistantibus, margine sulco angusto, profundo separatis, in valva dextra duplicatis; pallii impressione margine inferiore proxima; valvis intus albis, utroque latere violaceo maculatis.

Long. 54 mill., alt. 53, lat. 41.

Hab. Columbia.

39. Cyrena (anomala) angulata. C. testa trigona, turgidula, æquilaterali, solidula, lævigata, epidermide squalide fuscescente vestita; umbonibus minimis, depressis, oppositis, late antico atque postico æqualiter convexusculis et decliviibus; latere antico obtuso, subangulato, postico angulato, subrostrato; margine inferiore ventricoso; cardine angusto, dentibus primariis tribus minimis, angustis, duobus majoribus apice profunde fissis; dentibus lateralibus inaequalibus, con-
pressis, antico magno, acuto, triangulari; valvis intus albis, seu roseo superne tinctis.

Long. 34 mill., alt. 30, lat. 20.

Hab. ——?

40. Cyrena (anomala) inflata. C. testa orbiculato-subtrigona, cordiformi, inflata, inaequilaterali, tenui, transversim tenue et inaequaliter striata, epidermide squalide fuscescente, breviter laminosa vestita; umbonibus magnis, prominentibus, oppositis, approximatis; latere antico brevisculo, superne concausulo, antice producto et obtuso, latere postico latiore, oblique truncato, angulo obtuso decurrente circumscripto; cardine angustissimo, dentibus tribus primariis inaequalibus, minimis, divergentibus, postico valvae dextrae majore, profunde fisso, dentibus lateralis subaequalibus, in valva dextra duplicatis, antico paulo crassiore.

Long. 55 mill., alt. 52, lat. 42.

Hab. Panama.

41. Cyrena nitida, Desh. C. testa orbiculato trigona, depressiuscula, inaequilaterali, epidermide prasina, nitente, laevigata vestita; latere antico obtuso, breviore, postico magis attenuato flexura decurrente, oblique sinnuoso, margine superiore postico convexo, inferiore regulariter arcuato; umbonibus parvis, depressi, obliquis, approximatis; ligamento elongato, partim infosso; valvis crassis, solidis, intus candidissimis; cardine angusto, inaequaliter tridentato; dentibus obliquis latissimis in valva dextra, angustis in altera; dente laterali postico compresso, conico, acuto, antico breviore.

Long. 75 mill., alt. 71, lat. 44.

Hab. ——?

5. On a New Species of Musophaga.

By John Gould, F.R.S., V.P.Z.S.

Mr. Gould exhibited a drawing, made by Lieut. J. H. Stack, and some feathers shed from the tail and wings of a species of Musophaga, a specimen of which had been living for the last ten years at St. Helena in the possession of Lady Ross, the widow of the late Sir Patrick Ross, Governor of that island. From an examination of the drawing and feathers above mentioned, Mr. Gould was of opinion that the bird is a larger and more beautifully coloured species than any of the Musophagæ with which we were previously acquainted. Lady Ross informed Mr. Gould that it is nearly as large as a common hen- pheasant, and has a long, full, graduated blue tail, which is also the colour of the neck, the whole of the body and the wings, except the primaries, which are arterial blood-red, margined at the tips with a purplish-brown colour, similar to that in Musophaga violacea; the bill and the large denuded orbits are yellow; the irides brown; and the crown of the head surmounted with a high rounded crest of hair-
like blood-red feathers. It was brought from the western coast of Africa, but the precise locality was unknown.

For this new species Mr. Gould proposed the name of Musophaga Rossica, in honour of its amiable owner. A perfect skin of this bird has since been sent to England, and a full description of it, accompanied by a figure, will be given in the Transactions of the Society.

January 24, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. On the size of the red Corpuscles of the Blood of the Great Anteater (Myrmecophaga jubata).

By George Gulliver, F.R.S.

These have the usual form, but differ in their comparatively large size from those of most other Mammalia. Their average diameter is \( \frac{1}{276} \) th of an English inch, varying between the extremes of \( \frac{1}{343} \) th and \( \frac{1}{226} \) th of an inch.

All observers had come to the conclusion that there is no connection between the size of an animal and that of its blood-corpuscles, when I ascertained that in any truly natural family there is really such connection, however it may be in animals of such different orders as those to which the mouse and horse belong. The Great Anteater has larger blood-corpuscles than any yet examined in the other and smaller Edentata, though they are remarkably large in the Two-toed Sloth; and the Capybara has the largest ever seen among the Rodentia. Indeed, as this last order is characterized by a comparatively large size of blood-corpuscle, it might be supposed that in the great extinct species the corpuscles were larger than any ever measured in the Mammalia; and if any gigantic species allied to the Anteater should be found, its red corpuscles may be expected to be alike remarkable for comparative magnitude.

In the present species they are about the same size as in the Elephant, and are certainly, excepting those of this great pachydermatous animal, the largest yet observed in the Mammalia, as may be seen by reference to the copious Tables of Measurements which I have appended to the English version of Gerber's Anatomy, and to my edition of Hewson's Works, published for the Sydenham Society. With the exception just mentioned, it is still a very interesting fact, that a simple examination of less than one hundredth of a grain of its dried blood would suffice to distinguish the Anteater from any other animal in the Society's Menagerie.
RUTICILLA PHENICUROIDES, Moore.
RUTICILLA HODGSONI S. & S. Moore
RUTICILLA RUFOGULARIS, S. F. P. Moore.

J. Wolf, lab

M. & H. Hanhart, imp.
RUTICILLA VIGORSI, & Moore.
ICILIA NIGROGUBARIS. S. F. Moore.

By Frederic Moore, Assist. Mus. East India Company.

(Aves, Pl. LVII.—LXI.)

Genus Ruticilla (Ray), Brehm.


1. Ruticilla phœnicura, Linn.

Ficedula phœnicura, Boie, Isis (1822), p. 553.  
? Phœnicura albifrons, Brandt.  
The Redstarts, Bewick.  
Hab. Europe; W. Asia; N. India.  
In Mus. East India Company.

2. Ruticilla phœnicuroïdes, nobis. (Pl. LVII.)

Forehead, lores, ear-coverts, throat and breast black, extending much lower down on the latter than in R. phœnicura; crown, neck, back and upper wing-coverts ash, with a rufous tint, the ash palest on the crown; wings brown, with the edges of the exterior webs paler; from breast to vent, under wing-coverts, upper and lower tail-coverts and tail (except the two medial feathers which are brown) rufous. Male.

Length, 5 inches; wing, 3, the first primary being a $\frac{1}{4}$ inch longer, and the second a $\frac{3}{4}$ inch shorter than in R. phœnicura; tail, $\frac{21}{2}$; bill to gape, $\frac{1}{10}$, more elongated, not so broad at base, and it is also a trifle longer; and tarse, $\frac{6}{7}$.

Hab. N. India.  
In Mus. East India Company.

This species is closely allied to R. phœnicura, but is readily distinguished from it in the absence of the white on the front of the crown.

3. Ruticilla tithys, Scopoli.

Gould, Birds of Eur. t. 96.  

* Altered to Chaemarrhornis by Agassiz, in his 'Nomenclator Zoologicus'.

*

*The Black Redstart*, Eyton.

*Hab.* Europe; W. Asia; N. Africa.


*Black Indian Redstart*, Jard. et Selby.

*Thirti-hira* (i.e. Shaker), Hind., Jerdon.

*Thirthir Kumpa*, Plains, Royle.

*Phirirä or Lālgārdi*, Beng., Dr. F. (Buch.) Hamilton, MS. ii. p. 94.

*Hab.* India generally.  In Mus. East India Company.

"This species is very common in most parts of India during the cold weather, but more so in the table-land, I think, than in the Carnatic.  It is solitary, frequenting wooded places, gardens, hedges, old walls and out-buildings, being often seen about the roofs of houses.  It feeds on the ground, on wasps, ants, and various other insects.  Has a most peculiar quivering motion of its tail, especially after feeding."—Jerdon.

5. *Ruticilla Hodgsoni*, nobis. (Pl. LVIII.)


*Tharcapni*, Nepal, Hodgson.


Male: forehead, lores, ear-coverts, throat and breast black; fore part of crown clear white (much narrower than in *R. phoenicura*); hind part of crown, neck, back and upper wing-coverts fine ash, lightest on the crown; wings above dusky brown, the exterior margin of the basal half of the secondaries white, forming a patch; from the breast to vent, under wing-coverts, rump, upper and lower tail-coverts and tail (except the interior and exterior margins only of the two middle feathers which are dusky brown) rufous.  The female may be readily
distinguished by a general puffy appearance, and by the relative length of wing, &c.

Length, 6 inches; wing, 3\(\frac{3}{4}\); tail, 2\(\frac{4}{8}\); bill to gape, \(\frac{6}{8}\); and tarse, \(\frac{7}{8}\).

6. **Ruticilla rufogularis**, nobis. (Pl. L IX.)

Male: crown and back of neck mixed grey and ash; lores, ear-coverts and sides of neck black; wings and medial tail-feathers dark brown; apical margin of the exterior web of the outer tail-feather dusky; smaller wing-coverts (except the feathers immediately on the shoulder), scapulars, basal portion of the speculars, and apical margins of the greater wing-coverts white; exterior margin of the secondaries pale rufescent; throat and breast, back and upper tail-coverts and tail rufous; abdomen, under wing- and tail-coverts pale rufescent. Female: cinereous brown above, rufescent beneath; wings dark brown, margined with pale rufescent; lower part of back, upper tail-coverts and tail rufous, the two medial feathers dark brown, exterior margin of the outer dusky.

*Hab.* N. India. In Mus. East India Company.


*The Chestnut-bellied Warbler*, Lath.


"This species frequents the gravelly hollows of the Caucasian torrents during the whole of the summer, and migrates southward, in search of food, on the approach of winter; it runs along the banks of rivers; is restless, but not fearful; often moving its tail while sitting on the low shrubs; it makes its nest among the branches of the sea buckthorn, of the berries of which it is very fond."—Güldenstadt.

8. **Ruticilla Vigorsi**, nobis. (Pl. LX.)

Female: above, head, neck and back cinereous; wings dusky, with paler margins; beneath rufescent; upper tail-coverts and tail rufous, the two medial feathers dusky, as is also the exterior web of the outer and tip of each feather, but paler; bill and legs black.

Length, 7 inches; wing, 4\(\frac{1}{4}\); first quill 1\(\frac{1}{2}\) inch shorter than the second, the third \(\frac{6}{10}\) longer than the second, fourth and fifth equal and longest, the third and sixth equal and but a trifle shorter than the fourth and fifth, the seventh a \(\frac{1}{4}\) inch longer than the second, the eighth \(\frac{1}{8}\) shorter than the second; tail, 3; bill to gape, \(\frac{9}{8}\); and tarse, 1.

*Hab.* N. India. In Mus. East India Company.
This may eventually prove to be the female of a species allied to *R. erythrogramma*, but having no white wing-patch.

*Ruticilla aureocephala*, G. R. Gray, Gen. of Birds, i. p. 180 (excl. syn.).  
*Lusciola aureocephala*, Schlegel, Faun. Japon. t. 21 d.  
*Daurian Warbler*, Lath.  
*Reeves's Redstart*, Gray.  
*Hab.* Assam; China; Japan. In Mus. East India Company.  
Male: forehead, lores, ear-coverts, throat, fore part of breast, back, upper wing-coverts, apical and basal portion of the secondaries and tertaries, and the two medial tail-feathers black; exterior margin of the outer tail-feather and apical margin of the rest dusky black; medial portion of both webs of the secondaries and tertaries white; crown of head and back of neck slaty ash, rather whitish above the ear-coverts; breast, abdomen, under wing-coverts, upper and lower tail-coverts and tail (except as above) rufous. Female: above brown, the wing-patch rufescent white; beneath rufescent; upper and lower tail-coverts and tail (except the medial feathers of the latter which are dusky brown) rufous; bill and legs black.  
Length, 5 inches; wing, 3; tail, 2 1/4; bill to gape, 5/8; and tarse, 3/8.

*Hab.* Malacca; Java. In Mus. As. Soc. Bengal.  
"Size of *R. phoenicura*, and much resembling in plumage *R. nipalensis*, but smaller and the wings much shorter than in the latter species; it is also generally similar to *R. phoenicura*, but has no white on the forehead, which, with the crown, neck, and fore part of the back, are ash-grey; the middle of the back is black, as are also the lores, ear-coverts, throat and breast; and the rest of the under parts, with the rump and tail, except the medial feathers of the latter, are bright ferruginous, the exterior web of the outermost tail-feather being marked with dusky; wings dusky, having a large white patch occupying the base of the secondaries and tertaries, extending over both webs of each feather; bill and feet black. According to season, the dorsal plumage is margined with brown edgings, the under parts more slightly with greyish, and the wing-coverts with brown. Female plain brown above, paler beneath, with rufous tail, and the same great white wing-patch as in the male.  
"Length about 6 inches; of wing, 2 3/4; tail, 2 3/8; bill to gape, 5/8; tarse, 3/4."


Hab. N. India. In Mus. East India Company.

12. Ruticilla schisticeps, Hodgson.


"Side of the head and neck, back, wings and tail black; top of the head pale slaty blue; throat and large patch on each wing white; lower part of breast and abdomen rufous chestnut.

"Length, 6 inches; wing, 3 inches 4 lines; bill from gape, 7 lines; tarse, 10 ½ lines."

The only known example of this species is in the British Museum.

13. Ruticilla nigrogularis, nobis. (Pl. LXI.)

Crown of the head slaty blue, lightest on the forehead; lores, car- coverts, throat, back of neck, back, upper wing-coverts, two middle tail-feathers entirely, and the rest (except the basal portion) black; wings blackish brown, the scapulars, outer edges of the secondaries and under wing-coverts white; breast, flanks, belly, rump, upper and lower tail-coverts and base of tail (except the two middle feathers) bright chestnut; the vent and under tail-coverts have a few white feathers intermixed; bill and legs black.

Length, 6 inches; wing, 3 3/8; tail, 2 6/8; bill to gape, 51/8; tarse, 5/8.


This species is closely allied to R. schisticeps, but differs in having the throat black instead of white.


Hab. N. India. In Mus. East India Company.

15. Ruticilla fuliginosa, Vigors.

Phoenicura lineoventris, Hodgs. MS. (the female).
Hab. N. India. In Mus. East India Company.
“Found along rivers, near or among mountains, haunts rocks just appearing above the torrent. Feeds on coleopterous insects. Continually spreading its tail out like a fan, and in a vibrating manner.” —Griffith.


The White-capped Redstart.
Gir-Chaondeea, Hind., Hardwicke.
Kalee pholia, Mohun Ghats, Royle.
Hab. N. India. In Mus. East India Company.
“This species is extremely common in the valley of the Dhoon, and also in the hills, along the banks of streams and rivers, flitting from rock to rock and stone to stone, and eternally shaking and spreading its tail.” —Hutton.

17. Ruticilla erythronota, Eversman.

Hab. Caucasus (non vidi).

3. Contributions towards the Natural History of the Auriculide, a Family of Pulmoniferous Mollusca; with Descriptions of Many New Species from the Cumingian Collection. By H. and A. Adams.

Dr. Pfeiffer, in the ‘Zeitschrift für Malacozoologie,’ has very naturally divided the Auriculide into two subfamilies, viz. Auriculina, including those genera which live on the land, and of which the peritreme of the shells is thickened or expanded; and the Melampina, or those which are amphibious or living in brackish water, and in which the peritreme of the shell is straight and acute. To the first subfamily belong Ellobium (or Auricula), Pythia (or Scarabus), Cassidula, Alexia, Carychium, and Plecotrema, a new genus
proposed by the authors of this communication; to the other subfamily the following genera will appertain, viz. Melampus, Tralia, Ophicardelus, Laimodonta, Marinula, Leuconia, Pedipes, and Otina. The last-mentioned genus, according to the observations of Dr. Gray*, only seems to differ from Pedipes in the shell being ear-shaped and not supplied with tooth-like plaits. In the present as in former communications, the authors have endeavoured to arrange the synonymy and indicate the generic position of the numerous species of Auriculidae.

Genus Cassidula, Férrussac.

Shell oval, subconic, solid; spire short, obtuse; aperture narrow, longitudinal; inner lip plicate anteriorly, thickened and reflected; outer lip reflected, with an internal marginal callus, sinuated posteriorly.

Sidula, Gray; Detracia, Gray; Rhodostoma, Swainson.

1. Cassidula coffea, Chemnitz.
   *Voluta coffea*, Chemn. (not Linn.) ix. p. 45. t. 121. f. 1043, 1044.

2. Cassidula nucleus, Gmelin.

3. Cassidula Kraussii, Küster.


5. Cassidula rugata, Menke.


7. Cassidula angulifera, Petit.

8. Cassidula doliolum, Petit.

9. Cassidula sulculosa, Mousson.

10. Cassidula Sowerbyana, Pfeiffer.


13. Cassidula decussata, H. et A. Adams. C. testa ovata, crassa, fusca, spira obtusa, lineis impressis, transversis et longitudinalibus valde decussata; lira elevata ad suturas; apertura oblonga, angusta; columella triplicata, plica postica obsoleta, tuberculiformi; labro marginato, postice resecto, extus albido.

Subgenus Siona, H. and A. Adams.
Shell ovato-cylindrical; spire obtuse; whorls transversely striated; aperture linear; inner lip with two anterior plaits; outer lip thickened internally, posteriorly sinuated.

14. Cassidula (Siona) avena, Petit.

15. Cassidula (Siona) frumentum, Petit.

16. Cassidula (Siona) triticea, Philippi.
Auricula triticea, Philippi (in litt.), Küster, p. 49 (not identified).

Genus Alexia, Leach.
Shell oblong-ovate; spire acuminate; aperture elongate; inner lip 3–5-plaited; outer lip with the margin reflexed, thickened, or dentate internally.
Phytia, Gray; Pythia, Beck (not Bolten); Ovatella, Bivona; Jaminea, Brown (part.).

1. Alexia denticulata, Montagu.

2. Alexia personata, Michaud.
Carychium personatum, Mich. Compl. à Drap. p. 73. no. 2. pl. 15.


4. **ALEXIA MYOSOTIS**, Draparnaud.


5. **ALEXIA ACUTA**, D’Orbigny.


8. **ALEXIA BERMUDENSIS**, H. et A. Adams. *A. testa ovato-conica, spira producta, acuta, fusca, nitida, longitudinaliter substriata; anfractibus sex, planiunculitis, suturis marginatis; apertura ovali, postice acuta; columella biplicata, plica postica valida; labro subreflexo, albido-marginato.*


**Genus Carychium**, Müller.

Shell subcylindrical; spire elevated; whorls few, rounded; aperture small; inner lip straight, with a single fold; outer lip thickened and rather reflexed.

*Auricella* (part.), Jurine.

1. **Carychium minimum**, O. F. Müller.


2. **Carychium exiguum**, Say.


No. CCLXII.—Proceedings of the Zoological Society.
3. Carychium spelêum, Rossmässler.  
*Carychium spelêum*, Rossm. Iconograph. ixx. p. 36. no. 2. pl. 49. f. 661.

*Carychium spectabile*, Rossm. ixx. p. 36. no. 1. pl. 49. f. 659.

5. Carychium Indicum, Benson.  

Genus Ophicardelus, Beck.

Shell ovate-oblong, umbilicated, smooth; spire elevated, subconic; aperture oval; inner lip anteriorly dilated and reflexed, with two plaits at the fore part, the posterior spiral, forming an elevated ridge round the umbilical region; outer lip thin, simple.

1. Ophicardelus Australis, Bruguière.  

2. Ophicardelus Quoyi, H. et A. Adams.  
*O. testa ovato-conica, spira elata, conoidea, brunnea, fasciis angustis transversis cincta, levi, nitida, longitudinaliter striata; anfractu ultimo carina spirali circa regionem umbilicalem circumcincto; apertura oblongo-ovata; columella bicipitata; labro intus vix marginato et unilamellato.*  

Subgenus Laimodonta, Nuttall.

Shell oblong-ovate, imperforate, thin, transversely striated; spire elevated, conic; aperture oval; inner lip with three plaits, the anterior small; outer lip with the margin acute, posteriorly sinuated, internally with an elevated transverse ridge.  
*Lirator*, Beck.?  

3. Ophicardelus (Laimodonta) tæniata, Nuttall.  

4. Ophicardelus (Laimodonta) Sandwichensis, Eydoux et Souleyet.  

5. Ophicardelus (Laimodonta) concinna, C. B. Adams.  
*Auricula concinna*, C. B. Adams, Shells of Panama, p. 208. no. 310.

6. Ophicardelus (Laimodonta) sulcata, H. et A. Adams.  
*O. testa ovata, spira conica, elongata, apice erosa, brunnea, fasciis tribus pallidis transversis ornata, transversim sulcata, liris intermediis subgranulosus instructa; apertura angusta;*
3f> columella biciplicata, plica postica carinam spiralem circa regionem umbilicalem formante; labro acuto, simplice, intus laevi. 
Hab. —— ? Mus. Cuming.

7. OPHICARDELUS (LAIMODONTA) LAYARDI, H. et A. Adams. 
O. testa ovato-conica, rufa-fusca, fascia alba, lata, transversa ornata; spiraelata, apice acuta, anfractibus planis, transversim sulcatis; apertura ovata; columella triciplicata, plicis posterioribus validis; labro intus unilamellato, margine acuto. 
Hab. Ceylon (Mr. Layard). Mus. Cuming.

Genus MARINULA, King.

Foot simple inferiorly, without a transverse groove.
Shell ovate-oblong, imperforate, solid, smooth; apex short, acute; aperture obovate; inner lip broad, excavated, with three plaits, the posterior the largest; outer lip posteriorly sinuated, internally simple, the margin acute.

1. MARINULA PEPITA, King. 

2. MARINULA PATULA, Lowe. 

3. MARINULA MARINELLA, King. 

4. MARINULA CALLAEOENSIS, Petit. 

5. MARINULA RECLUZIANA, Petit. 

6. MARINULA CYMBÆFORMIS, Recluz. 

7. MARINULA PUNCTATA, Bivona. 

8. MARINULA QUALIS, Lowe. 

9. MARINULA XANTHOSTOMA, H. and A. Adams. M. testa ovato-oblonga, solida, laevinscula, nitida, fulva; spira acuta, anfractibus 5, convexinsculis; apertura oblongo-ovata, lutea;
columella triplicata, plica postica pervalida; labro acuto, in medio vix incrassato, postice sinuato.

_Hab._ Moreton Bay.  _Mus._ Cuming.

**Genus Pedipes, Adanson.**

Foot furnished inferiorly with a transverse groove.

Shell subglobose, imperforate, transversely striated; spire short, obtuse; aperture narrow; inner lip flattened and excavated, with three plaits, the posterior the largest; outer lip posteriorly sinuuated, with two teeth internally; margin acute.

1. **Pedipes Afra, Gmelin.**  

2. **Pedipes angulata, C. B. Adams.**  
_Pedipes angulata,_ C. B. Adams, _Shells of Panama,_ p. 207. _no._ 308.

3. **Pedipes ovalis, C. B. Adams.**

4. **Pedipes quadridentis, Pfeiffer.**

5. **Pedipes globulus, Féruss.**

**Genus Leuconia, Gray.**

Shell ovate-oblong, imperforate, smooth; spire conical; aperture elongate-oval; inner lip with two plaits anteriorly; outer lip smooth internally, the margin simple.

1. **Leuconia alba, Montagu.**  

2. **Leuconia Sayi, Küster.**  
_Auricula Sayi,_ Küst. _Chemn._ _Neuer Conch._ _Cab._ (Auriculacea) _p._ 42. _t._ 6. _f._ 14, 15.

3. **Leuconia microstoma, Küster.**  
_Auricula microstoma,_ Küst. _Chemn._ _Neuer Conch._ _Cab._ (Auriculacea) _p._ 52. _t._ 1. _f._ 18, 19.

4. **Leuconia Micheli, Mittré.**  

5. **Leuconia Bivonæ, Philippi.**  
_Auricula Bivonæ,_ Phil. _in litt._ Küster, Chemn. _Neuer Conch._ _Cab._ (Auriculacea) _p._ 20. _t._ 2. _f._ 14, 15.
1. *Turricula montifera*  
2. *Clanculus nodulosus*  
3. *Lamna Strangei*  
4. *Typhis grandis*  
5. *Eudora coronata*  
6. *Zizirilla spectabilis*  
7. *Cyclus nochilosus*  
8. *B. osteoliia meknoche*  
9. *Rostellaria melanocheius*
6. **Leuconia auricella**, Férussac.


**Genus Plecotrema**, H. et A. Adams.

Shell ovato-conic, solid, umbilicated; spire elevated, acute; aperture contracted, oblong; inner lip with three plait, the middle one bifid; outer lip with a marginal varix, internally bidentate. (Proc. Z. S. 1853. p. 120.)

1. **Plecotrema bella**, H. et A. Adams. *P. testa ovato-conica, late umbilicata; spira acuminata, anfractibus gradatis, ad suturas angulatis, liris transversis, granulatis, aequalibus concinne insculptis; apertura parva, peristomate libero; labio triplicato, plica mediana duplicata; labro intus bidentato, extus incrassato, limbato.*


4. **Further Contributions towards the Natural History of the Trochidae: with the Description of a New Genus and of several New Species, from the Cumingian Collection. By Arthur Adams, F.L.S. etc.**

(Mollusca, Pl. XXVII.)

**Genus Turcica**, A. Adams. (Nov. gen.)

Shell conoidal, thin, subdiaphanous, perforate; whorls with transverse series of granules, the last rounded at the periphery; columella solid, spirally twisted at the upper part, ending below or anteriorly in an obtuse prominent point; outer lip thin, simple, acute.

This genus is founded on a beautiful trochoid shell from Australia, having somewhat the aspect and singular texture of a *Ziziphinus*; the great peculiarity, however, of the spirally-contorted columella distinguishes it from all the species of that genus.

1. **Turcica monilifera**, A. Adams. (Pl. XXVII. fig. 1.)

*T. testa conoidea, subdiaphana, tenui, imperforata, fulva, aureo-nitente; anfractibus convexisculis, cingulis moniliformibus, transversis, interstitiis oblique striatis, insculptis; suturis canaliculatis; anfractu ultimo cingula granulorum, in serie duplici dispositorum, ornato; basi convexa, cingulis granulosis granulis nonnullis fuscis instructa; apertura suborbiculari; columella superne spirali, antice in dentem desinente; labro margine acuto, intus lirato.*


2. **Ziziphinus spectabilis**, A. Adams. (Pl. XXVII. fig. 7.)

*Z. testa conoidea, solidae, imperforata, nitida, carneo-fulvescente; anfractibus planulatis, cingulis transversis, moniliformibus, granulis albidis, interstitiis subpurpureis, alternantibus ornatis;*
anfractu ultimo rotundato, infima facie concentrice et valde lirato, regione umbilicali alba; columella solida, arcuata; apertura subquadra; labro margine acuto, intus sulcato.

3. ZIZIPHINUS SPECIOSUS, A. Adams. Z. testa pyramidal-conica, imperforata, carnea, rufo variegata et punctata; anfractibus planulato-concavis, liris transversis, subgranulatis, majoribus cum minoribus alternantibus, granulis nonnullis rufo-fuscis, insculptis; anfractu ultimo obtuso angulato, basi concentrice exarato, regione umbilicali impressa, callo rufo cincta; apertura subquadra; columella solida, subarcuata, antice vix truncata; labro intus lirato, margine in medio subangulato.
Hab. Moreton Bay (Mr. Strange). Mus. Cuming.

4. ZIZIPHINUS COMPTUS, A. Adams. Z. testa elevato-conica, imperforata, alba, rubro sparsim punctata, apice atro-purpurea; anfractibus planiusculis, suturis canaliculatis, cingulis transversis, granulosis, lineis elevatis alternantibus ornatis, granulis nitidissimis; anfractu ultimo rotundato; apertura quadrato-orbicula; columella arcuata, in medio vix tuberculata; labro acuto, simplice, intus lirato.

5. ZIZIPHINUS SCITULUS, A. Adams. Z. testa turbinato-conica, late et profunde umbilicata, carnea, rufo variegata; anfractibus coniexiis, ad suturas marginatis, liris transversis, asperulatis, rubro articulatis ornatis; anfractu ultimo rotundato, ad peripheriam vix carinato, basi convexo, radiatim striato et concentrice lirato; apertura orbicula; columella arcuata, in medio excavata.
Hab. New Zealand (Mr. Strange). Mus. Cuming.

6. ZIZIPHINUS EUGLYPTUS, A. Adams. Z. testa conoidea, solida, imperforata, carnea, rubro pallide variegata, apice atro-purpurea; anfractibus convexiusculis, cingulis transversis, moniformibus, majoribus cum minoribus alternantibus ornatis; anfractu ultimo rotundato, basi convexuscule, cingulis granulosis, concentricis insculpta, regione umbilicali alba; apertura subquadragulari; columella solida, convexa, rectiucesca, antice subtruncata.

7. MONILEA MENKEI, A. Adams. M. testa orbiculato-conoidea, umbilicata, sordide alba; anfractibus convexiusculis, supremis transversim liratis, interstititis longitudinaliter rugoso-rectulatis, infimis cingulis granulosis, confertis, granulis nonnullis majoribus ornatis; umbilici margine callo carneo, spirali, striato cineto; columella in medio sinuata, callo reflexo instructa, antice bituberculata; labro intus lari.
8. **Monilea Philippi**, A. Adams.  *M. testa orbiculato-conoidea, umbilicata, sordide carneae, fusco radiatim picta; anfractibus convexiusculis, cingulis transversis, aequalibus, crenulatis, interstiiis longitudinaliter striatis ornatis; margine umbilici callo spirali, fusco, radiatim striato cineto; columella in medio sinuatu, ecallosa, antice obsolete bituberculata.*  
The species most nearly resembling this is the *Trochus Belcheri* of Philippi, which I imagine is the *Trochus calyculus* of Wood.

9. **Clanculus nodulosus**, A. Adams. (Pl. XXVII. fig. 2.)  
*C. testa turbinato-conoidea, imperforata, alba, rubro variegata; anfractibus transversim sulcatis, et cingulis granosis ornatis, superne serie tuberculorum coronatis; sutura canaliculata; anfractu ultimo ambitu sulcato, ad peripheriam tuberculato, basi planiusculo, cingulis granosis ornato; columella superne soluta, tortuosa, antice tuberculata; margine umbilici crenulato; labro intus transversim sulcato, margine dentatorotato.*  
This species has most of the characters of a *Clanculus*, but the whorls are nodulous and not granular.

*O. testa orbiculato-conoidea, apice obtusa, umbilicata, livido-carnea; anfractibus planisculis, cingulis granorum confertis, aequalibus insculptis, interstiiis striatis, ultimo ad peripheriam subangulato; umbilico aperto, intus callo spirali instructo, callo antice dilatato et tuberculato; apertura orbiculari; columella arcuata, simplice; labro intus levi.*  
The character of this shell is so peculiar, on account of the internal spiral callus of the umbilicus, and the absence of characters which constitute allied forms, that I propose to consider it a subgenus of *Omphalius*, under the name of *Anadema.*

*O. testa depresso-conica, late et profunde umbilicata, rufescente, fusco maculata; anfractibus planis, cingulis nigro alboque articulatis, anfracu ultimo ad peripheriam angulato, basi convexa, concentrice sulcata; apertura orbiculari; umbilico aperto, perspectivo.*  
This is a very pretty little species, of a trochoid form, but somewhat difficult to refer to any known group; the form is like *Chlorostoma*, the markings like those of *Gibbula*, and the umbilicus as in *Omphalius.*

*G. testa umbilicata, turbinato-conoidea, alba, flammis coccineis radiatim picta; anfractibus convexis, cingulis granulosis, transversis ornatis, ad suturas plicato-nodosis, sutura canaliculata; anfracu ultimo rotundato, ad peripheriam canaliculato, basi concava, maculis
quadratis, in serie spirali dispositis ornata; apertura suborbiculari; columnella in medio excavata, in dentem terminata; labro intus lirato, margine crenulato; umbilico aperto, perspectivo.

_Hab._ China Seas.

In many respects this beautiful species of _Gibbula_ resembles _On-phantalus rubro-flammulatus_, Koch.

13. **Margarita dilecta**, A. Adams. _M. testa orbiculato-conica, late umbilicata, nitente, albida, flammulis rufis radiatis picta; anfractibus convexis, cingulis grano-sulis inscindta; apertura suborbiculari; columella in medio excavata, in dentem terminata; labro intus lirato, margine crenulato; umbilico aperto, perspectivo._

_Hab._ Straits of Magellan. _Mus. Cuming._

14. **Margarita aspecta**, A. Adams. _M. testa turbinato-conica, late umbilicata, grisea, aureo-nitente, fusco maculata; anfractibus rotundis, ad suturas excavatis, cingulis levatis, crenulatis, subdistantibus, transversis, interstitiis longitudinaliter striatis ornatis; basi convexa, albida, sublævi, radiatim striata; umbilico magni, aperto, cingula elevata cincta, intus liris concentricis et lineis radiantibus decussato._

_Hab._ Australia. _Mus. Cuming._

15. **Margarita biangulosa**, A. Adams. _M. testa orbiculato-conica, late umbilicata, laevi, brunnea, lineolis undulatis, longitudinalibus concinna picta; anfractibus planulis, superne angulatis, ultimo biangulato; suturis marginatis; basi convexa, cingulis concentricis insculpta; umbilico magno, aperto, cingula elevata cincta, intus lineis concentricis et lineis radiantibus decussato._

_Hab._ Siam. _Mus. Cuming._

P.S. Since my former communication on the _Trochidae_, I have had an opportunity of seeing the monograph of _Trochus_ by Dr. Philippi, and am enabled to add a few corrections and additional synonyms.

**Ziziphinus Javanicus**, Lamarck.


**Chlorostoma nigerrimum**, Gmelin.


**Gibbula Preissiana**, Philippi.

Gibbula Lehmanni, Menke.


Monilea corrugata, Koch.

Trochus corrugatus, Koch; Phil. Abbild. p. 67. Troch. t. 2. f. 7; Phil. Mon. Trochus, pl. 25. f. 9.—Monilea lentiginosa, A. Adams, Proc. Zool. Soc. no. 228. p. 188.

Monilea crenulata, Menke.


Diloma nigerrima, Gmelin.

Turbo nigerrimus, Gmel. Chemn. v. pl. 185. f. 1848.—Littorina nigerrima, Menke.—Turbo Quoyi, Kien.—Turbo Araucanus, D'Orb.

5. Description of a New Genus and of several New Species of Gasteropodous Mollusca, from the Cumingian Collection. By Arthur Adams, F.L.S. etc.

(Mollusca, Pl. XXVII.)

Larina, A. Adams. (Nov. gen.)

Operculum annular, horny, ovate; elements concentric; nucleus intramarginal near the middle of the inner edge.

Shell imperforate, semiglobose, thin; spire obtuse; whorls few, tumid, covered with an olivaceous epidermis, the last large and ventricose; aperture wide, ovate; outer lip simple, regular, acute.

This genus seems most to resemble Amphibola, but the operculum in that genus is subspiral, and not annular. From the circumstance of "Moreton Bay" being given as the locality, it would appear to be marine, thus affording us another example of a marine air-breathing Gasteropod.

1. Larina Strangei, A. Adams. (Pl. XXVII. fig. 3.) L. testa suborbiculari, imperforata, vix rimata, tenui, ampullacea; spira obtusa; anfractibus $\frac{3}{2}$, convexis, transversim sulcatis, epidermide olivacea, sæpius in lineis transversis elevata obtectis, anfractus ultimo ventricoso; apertura ovata, ampla; labro acuto, simplice.

Hab. Moreton Bay (Mr. Strange). Mus. Cuming.

In young specimens the epidermis is disposed in transverse spiral ridges, and the surface of the shell is conspicuously striated longitudinally; in adult specimens the epidermis becomes abraded, and the surface exhibits some elevated transverse ridges.

A very large, white, solid species, with the whorls tinged with red-brown, and excavated near the sutures.


This is a large and handsome species, combining the form of D. tyrria with the laciniated ribs and sculpture of D. atrata of Chemnitz.


This singular shell has the characters of a Desmoulea, with the cancellated whorls and aspect of a Nassa; the ringent, plicate aperture is very conspicuous.

5. Desmoulea ringens, A. Adams. (Pl. XXVII. fig. 6.) D. testa ovato-acuta, ventricosa, rufo-fuscescente, longitudinaliter plicata, transversim sulcata, cancellata, scabriuscula, suturis canaliculatis; anfractibus superne angulatis, ultimo sulco profundo ad basin instructo; apertura coarctata, ringente; columella quadriplicata, plicis duabus anterioribus elatirobus; labro infexo, intus valde corrugato-plicato. Hab. ——— ? Mus. Cuming.

This singular shell has the characters of a Desmoulea, with the cancellated whorls and aspect of a Nassa; the ringent, plicate aperture is very conspicuous.


The characters of this species are constant both in young and adult specimens, and are such as clearly separate it from G. fusus, with which it has hitherto been confounded.
February 14, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Description of a New Genus and Species of Seal**
   (Heliophoca atlantica), from Madeira.
   **By J. E. Gray, Ph.D., F.R.S., V.P.Z.S.**

Some months ago Mr. MacAndrew most kindly procured for me the skin of a Seal from the island of Madeira. A careful examination of it convinced me that it was a new species, most allied to Phoca barbata of the North Sea, but yet quite distinct from it. Mr. MacAndrew, after considerable trouble, at length obtained for me another skin of an older animal, with its skull, which proves that it is not only a new species, but presents such a combination of characters as entitle it to be considered the type of a new genus. It is the only species of Seal which I believe has yet been found so near the tropics on the African coast.

Both the specimens in the Museum came from the same cave in the Deserta Grande Island; the larger skin is full-grown, the other younger. Knight, in his ‘Once on a Time,’ speaks of the seals as common near Funchal; he observes, “A multitude of seals rush out from that hollow with a sudden cry, and plunge into the waves; that point shall be Camara das Lobos, the cave of seals.” (i. p. 60.)

Mr. MacAndrew observes, that there is an island near the Canaries called Isle Lobos, on account of the number of seals formerly found there. It is very difficult of access, and Mr. MacAndrew could not hear of any existing there now, or of any remains of them.

The following are the characters of the genus:—

**Heliophoca.**

Muzzle rather elongate, broad, hairy, with a slight groove between the nostrils; whiskers small, quite smooth, flat, tapering. Fore-feet short; fingers gradually shorter to the inner one; claws 5, flat, truncate. Hind-feet hairy between the toes; claws very small; hair short, adpressed, with very little or no under fur. **Skull** depressed; nose rather depressed, rather elongate, longer than the length of the zygomatic arch; palate angularly notched behind. Cutting teeth $\frac{6}{4}$ large, notched within, the middle upper much smaller, placed behind the intermediate ones. Canines, large, conical, sharp-edged. Grinders $\frac{5}{5}$ large, crowded, placed obliquely with regard to the central palatine line; crown large, conical, with several small conic rhombic tubercles. Lower jaw angulated in front below with diverging branches, the lower edge of the branches rounded, simple.

The feet, palate, and teeth resemble those of the genus Callo-
cephalus (C. communis), but the grinders are larger and less deeply lobed; and it has the smooth whiskers of the restricted genus Phoca (P. barbata). It differs from the latter genus in the depressed form of the skull, the large tubercular grinders, and the angular termination to the palate.

As the other subtropical Seal, Phoca tropicalis (Gray, Cat. Seals B.M. 28), from Jamaica, described from an imperfect skin without a skull, has similar small smooth whiskers, it may very probably, when its skull has been examined, be found to belong to this genus, which will then prove to be a subtropical form of the family.

**Heliophoca Atlantica***.

Fur short, adpressed, olive-gray, very obscurely grisled at the tips of the hairs: Chin and under parts of the body rather paler.
Length 5 feet 5 inches.
*Hab.* Madeira. R. MacAndrew, F.R.S., &c.

While on the subject of Seals, I may draw the attention of naturalists on the coast of the Pacific to the account of the *Sea Horses*, said to be found in abundance on the seaward part of the island of St. Lorenza near Callao, mentioned in M. Bonelli’s Travels in Bolivia, i. 90 & 128.

I have never heard of the genus Tricheus living out of the Arctic Ocean, and should have believed that the author had mistaken the *Sea Bear* (Otaria Leonina) for the *Sea Horse*, if he did not describe “the two great white tusks projecting from the mouth on either side,” and further observe, that “the tusks are of great value and form an important article of commerce” (see i. 90), which cannot apply to the tusks of the Sea Bear.

It is to be observed that the Peruvian continuation of the Antarctic current runs up the shores of Chili and Peru (see Journ. Roy. Geog. Soc. 1853) and chills that coast. This may explain why seals are found so near the tropics in those seas. I fear that M. Bonelli is not to be relied on for his natural-history observations, for he states that the cedar, mahogany and banyan trees (i. 79), and the date-palm (i. 146) grow on the coast of Peru.

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*I* I have just received a well-preserved skin and the skeleton of this Seal from Algeria, under the name of *Phoca leporina*. It certainly cannot be the *Phoca leporina* of Lepechin, in Act. Acad. Petrop. 1777, 264. t. 8, 9 = the *Phoca Lepechini*, Lesson, from the White Sea and the rivers flowing into it, which M. Nilsson considers to be the same as *P. barbata*; but I think this is doubtful, as Lepechin described the fur as dirty-white, sometimes with a yellow tinge without any spots, and the hair as erect, with abundance of under wool. The African Seal has very short, broad, closely adpressed hair, while Lepechin expressly states that the hair of *P. leporina* is not adressed, but erect, and that his species is at once known from *Phoca barbata* by the large size of the grinders, which are very close together, and the last one very peculiarly placed across the line of the other teeth (Oct. 1854).
2. Notes on the Habits of Indian Birds. Part II.
By Lieutenant Burgess.

Family Strigidae.

Genus Urrua, Hodgs.

Urrua Bengalensis.

I have found this large Owl common on the banks of the large rivers, as also amongst the low jungly hills and patches of bushwood in the Central Deccan. It appears to prefer the small bushy ravines covered with high grass, which lead down from the high banks into the beds of the larger streams and rivers. When seated on the top of a bush in the dim twilight, it forms quite a formidable object, the gloom making it appear larger than it really is. It does not appear to be strictly nocturnal, as I met with one sitting on the sandy shore of the river Bheema some time after the sun had risen. I never found the eggs of this bird; but I have been informed, on good authority, that they make their nest at the foot of bushes in the tall grass, and lay four white eggs. I kept three nestlings of this species for some time. When brought to me out of the nest, they were covered with down of a chestnut colour, spotted and streaked with dark brown. This Owl breeds during the months of March and April.

Genus Noctua.

Noctua Indica, Frank.

This is a very common Owl in Western India, so much so that every grove, and almost every large tree, appears to have some of this clamorous family inhabiting its holes and crevices. It is a most noisy bird, screeching and screaming ere the shades of evening draw on, and becoming quite a nuisance to any one pitched under the tree frequented by them. It appears to be very little incommoded by a strong light, moving out of its hiding-place before the sun is down, flitting backwards and forwards amongst the branches and from tree to tree. In the month of June I saw a pair of these little Owls sitting on the bare branch of a tree, with the brilliant morning sun shining full on them; in fact, they appeared to be sunning themselves. On another occasion I shot a pair, sitting on a ledge of rock, in the full blaze of the setting sun. If disturbed during the day, they fly about with the greatest activity, uttering their squabbling note, and look down on the intruder from above with eyes that appear in no way incommoded by the light. In the stomachs of the last pair above mentioned, I found the wing-cases and legs of beetles. This little owl breeds during the months of February and March, laying three or four eggs of a pure white colour, nearly $1\frac{3}{4}$ in. long and $1\frac{1}{4}$ in. broad. They lay their eggs in holes of trees.
Order II. Insessores.

Tribe Dentirostres.

Family Laniadeae.

Subfamily Laniana.

Genus Lanius.

Lanius Hardwickii.

This handsome little Shrike migrates, I believe, from the Deccan for the purpose of breeding, probably resorting to the thickets and ravines of the Western Ghauts, and returning to the Deccan about September. I could not find its nest when on the hills in the month of October; but I shot a young bird, which may probably be the young of this species. I give a description of its plumage. Beak rich deep brown; chin and throat dirty brownish-white; under plumage and under tail-coverts white; flanks dull grey; white streak passing from the beak over the eye and ear-coverts; ear-coverts and patch behind the eye dull black; top of the head and nape of the neck brownish-grey, the feathers having very pale whitish ferruginous tips; feathers on the lower part of the neck and back are on their basal half grey, and the remaining portion greyish-brown with light tips. On the lower part of the back the feathers are very filmy and thick-set, of a grey colour, with a dark band near their ends, and tipped with white. Primaries hair-brown; bastard wing brown; greater coverts lighter brown with pale tips; secondaries hair-brown; tertials paler brown, with light edges. Tail consists of twelve feathers; the two outer are white, with pale brown near the ends on the outer webs. The next feather has also a dark spot near the tip on the inner web; the third feather is nearly black, with a white spot on the inner web about half an inch from the end; the remaining feathers are of a black-brown, being nearly black on the inner webs; lesser coverts pale brown with light tips; feathers on the thighs of a pale grey-brown with white tips; legs and feet lead-colour; claws pale brown; the legs and claws have a white powdered look in several places, especially near the junction of the scales. This may perhaps have been the young bird of the large rufous-backed Shrike, Lanius erythronotus.

Lanius Excubitor. Large Grey Shrike.

This is very common in the Deccan. It is generally seen seated on the top of small babool trees, or other thorny bushes, in open country, and may be distinguished at some distance by its silvery-white breast. When disturbed, it flies low to some neighbouring bush, on the top of which it alights, uttering its harsh and grating cry. The Grey Shrike begins to breed as early as January, as a boy brought me a pair of nearly fledged young ones on the 2nd of February. They almost, if not invariably build in a thorn bush, and generally well into the centre. I subjoin a note penned at the time of finding one of their nests:—"15th May. Saw a pair of Grey Shrikes building
in a place I never saw this species building in before, viz. on the outside branches of the babool tree. The nest was composed of a thorny twig or two of babool and thick bents of grass.” Another nest was made in a thorny bush, about 5 feet from the ground, and close to the stem of the bush; it was composed of twigs of the thorn bush, pieces of cotton and a piece of rag, with grass interwoven into it. This nest contained three eggs. It is now in the Museum of the Zoological Society. The eggs are a little less than an inch in length, by a little less than \( \frac{3}{8} \) in. wide, of a white ground, spotted and mottled, especially at the large end, with grey and red-brown.

I believe that this Butcher Bird, like the last-mentioned, migrates from the Deccan during the monsoon, returning about September. It would form a very interesting subject for investigation, as to what families of birds leave the Deccan during the monsoon, whither they betake themselves, and for what purposes. I have frequently made inquiries, but could not learn anything satisfactory on this subject.

Subfamily Dicrurinae.

Genus Dicurus.

Dicurus macrorercus. Drongo Shrike.

This bird is not much indebted to variety or richness of colouring in its plumage, for bringing it into notice; but its pleasant cheerful note and active habits must have been remarked by all observers of nature in India. Ere the peep of day it commences its pleasant twitter, and from sunrise to sunset it may be seen, now sitting on a bare spray watching for some passing insect, now perched on the back of a browsing cow or sheep, and then off in an instant in pursuit of a fly. I have seen one chase and capture a large white butterfly, which it appeared to have some difficulty in swallowing when caught, as it did not attempt to pull it to pieces, but was endeavouring to bolt it entire. They appear to have great antipathy to crows, chasing them with great vigour and boldness whenever one enters within their domain. I subjoin a note, made at the time, of the curious flight of these birds when hawking after flies. “Saw one of them (Drongo) perched on the outside branch of a tree hanging over a field of wheat; suddenly the Shrike descended close to the ears of corn on which the flies had settled in the heat of the sun, and commenced a most curious jerking flight up and down, as if it had been tossed up and down on the waves of the sea. After performing this dancing flight for some little time, it returned to its seat, and after remaining there a short time, descended and repeated its jerking flight.” The Maratha name is Kolsa, the word for charcoal, alluding I suppose to its jet-black colour. The Drongo begins to build in the month of May, and Dr. Jerdon mentions having found its nest as late as August. I found its nest in a bush in a thick hedgerow; it was composed of roots, and contained three eggs of a rather reddish creamy-white ground, spotted with red spots; the egg is \( \frac{3}{8} \) in. long by rather more than \( \frac{7}{10} \) broad. The food of the Drongo consists of insects, moths, and butterflies.
Genus Phænicornis, Swain.

Phænicornis Peregrinus, Vig.

I have not met with the nest and eggs of the small red bird, but I believe the description given below is that of a young bird soon after it had left the nest. “18th September 1849. Whole of the upper plumage olive-green, motbled about the head with pale yellow, a large spot of which is behind the eye; tips of the lesser wing-coverts pale. Primaries and secondaries dark, with pale edges; breast and belly pale whitish-yellow, with yellow streaks; legs and feet pale lead-colour; claws soft, as also the edges of the beak.”

Genus Iora.

Iora tiphia.

I have never met with the nest or eggs of this handsome little bird; but Dr. Jerdon, in his Catalogue of Indian Birds, says, “I once, on the west coast, in the month of September, met with a nest of this species in the fork of a low tree; it was more neatly and carefully made than any other of the few nests I have seen in this country. It contained young ones.” The Iora has a most wonderful power of voice. At one moment it is heard uttering a low plaintive cry, at the next a shrill whistle; no one could have believed the notes to have issued from the same throat. On the 29th of August, 1849, I shot a female. The eggs in the ovaries were very large. The gizzard contained the remains of a curious green insect, partly covered with black hair. The tongue of this bird is furnished with two long muscles, as in the woodpecker.

Genus Hæmatornis.

Hæmatornis cafer. Common Bulbul.

This sprightly and truly Indian bird breeds during the months of August and September. The first time that I noticed them building in August was on the 11th, and I found a nest with one fresh-laid egg on the 25th of September. They build in thick bushes in gardens. I found two nests in my garden at Ahmednuggur, one built in a guava tree, and the other in a mass of creepers. The nest is composed of fine twigs, bound together here and there with cobwebs, and lined with fibres. The nest I send is lined with the fibre of the cocoa-nut picked off a cocoa-fibre mat. I observed the old birds picking at the mat when it was put out of doors. I do not know the number of eggs which their nest generally contains. The egg is \( \frac{1}{2} \) in. in length by a little more than \( \frac{1}{2} \) wide, of a rich madder colour, spotted and blotched with grey and madder-brown. The only egg which I possessed is unfortunately broken; but a drawing in my possession, most accurately painted by my sister-in-law, Miss Gardiner, gives it very correctly.
3. **Descriptions of Forty-two New Species of Helix, from the Collection of H. Cuming, Esq.**

**By Dr. L. Pfeiffer.**

1. **Helix urnula.** *H. testa obtecte perforata, helicophantoidea, tenui, submembranacea, irregulariter oblique sulcata et malleata, parum nitida, pellucida, virenti-fusca; spira minuta, conoidea, apice obtusa, pallida; sutura profundiuscula; anfract. 3, convexis, rapidissime accrescentibus, ultimo magno, deorsum subcompresso, basi subexcavato; apertura obliqua, truncato-ovali, intus nitidissima; perist. simplice, obtuso, subinflexo, marginibus approximatis, columellari superne reflexo, adnato.*

Diam. maj. 16, min. 13, alt. 9 mill.

_Hab._ New Zealand.

2. **Helix nematophora.** *H. testa imperforata, depressa, tenui, costis filiformibus, subconfertis sculpta, diaphana, non nitente, corneo-lutea, maculis castaneis prasertim superne tessellato-variegata; spira plana; sutura impressa; anfract. 5½, convexis, lente accrescentibus, ultimo altiore quam lato, antice non descendentem, basi planiusculo; apertura subverticali, lunari, intus nitida; perist. simplice, recto, marginibus remotis, supero brevissimo, dextro subverticali, basali leviter arcuato, versus regionem umbilicalem dilatato, adnato.*

Diam. maj. 9½, min. 8, alt. 5 mill.

_Hab._ Salomon’s Islands.

3. **Helix Quitensis.** *H. testa subobtecte perforata, conoidea, tenui, levigata, pellucida, lutescenti-hyalina; spira conoidea, acutiuscula; sutura profunda; anfract. 5, convexis, lente accrescentibus, ultimo non descendente, basi convexusculo; apertura obliqua, lunari; perist. simplice, recto, marginibus distantibus, columellari declivi, sursum subdilatato, perforationem fere claudente.*

Diam. maj. 7, min. 6½, alt. 4 mill.

_Hab._ Quito.

4. **Helix saccata.** *H. testa sinistrorsa, perforata, turbinato-depressa, tenuissima, oblique striatula et lineis spiralibus confertis minute decussata, vix nitidula, pellucida, rubello-cornea; spira subturbinata, acutiuscula; sutura impressa, anguste marginata; anfract. 4½, vix convexusculis, celeriter accrescentibus, ultimo non descendente, compresse carinato, supra carinam oblique rugoso, basi convexo, antice saccato; apertura diagonali, contracta, subangulato-lunari; perist. simplice, recto, marginibus subconvergentibus, basali perarcuato, juxta perforationem non perviam breviter reflexo.*

Diam. maj. 28, min. 23, alt. 16 mill.

_Hab._ India.

5. **Helix capitanea.** *H. testa aperte perforata, turbinato-lenticulari, tenui, levigata, sulcis spiralibus nonnullis obsoletissimis signata, nitidissima, pallide rubello-cornea, linea rufa immediate* No. CCLXIII.—_Proceedings of the Zoological Society._
supra carinam, alteraque suturali ornata; spira conoidea, acutiuscula; sutura vix impressa; anfract. 5, planiusculis, celeriter accrescentibus, ultimo non descendente, medio subacute carinato, basi convexo; apertura subobliqua, tetragon-lunari; perist. simplice, recto, marginibus subparallelis, columnari subtricte descendente, superne breviter reflexo.

Diam. maj. 23, min. 20, alt. 11 mill.

_Hab._ San Cristoval, Salomon’s Islands (Capt. Keppell).

6. **Helix novella.** _H._ testa perforata, turbinato-depressa, tenueuscula, leviter rugato-striata, diaphana, oleoso-micante, fusco-flavia; spira breviter turbinata, apice obtusa; sutura levi, submarginata; anfract. 5, vix convexiusculis, celeriter accrescentibus, ultimo superne convexiore, carina peripherica acuta, antice obtusa munito, non descendente, basi convexo; apertura obliqua, subtetragono-rotundata, inus margaritacea; perist. recto, obtusulo, margine basali ad dextram valde arcuato, tum subarcuatim ascendent, ad perforationem brevissime reflexo.

Diam. maj. 21½, min. 18, alt. 10 mill.

_Hab._ Ceylon (Mr. Thwaites).

7. **Helix verrucula.** _H._ testa perforata, turbinata, tenui, superne grosse et regulariter granulata, sericea, pellucida, fusco-cornea; spira conoidea, obtusa; anfract. 4½, vix convexiusculis, lente accrescentibus, ultimo medio acute compresso-carinato, antice non descendent, basi convexo, sublævigato, nitido; apertura vix obliqua, securiformi; perist. recto, acuto, marginis columnari subverticali, superne brevissime reflexo, perorationem fere tegente.

Diam. maj. 7½, min. 6½, alt. 4½ mill.

_Hab._ Ceylon (Mr. Thwaites).

8. **Helix regularis.** _H._ testa suboblecte perforata, regulariter coniformi, tenui, minutissime striata, pellucida, oleoso-micante, luteo-cornea; spira conica, acutiuscula; sutura vix impressa; anfract. 6, subplanis, lente accrescentibus, ultimo non descendent, acute carinato, basi planiusculo; apertura diagonali, depressae securiformi; perist. simplice, recto, marginibus remoti, columnari superne dilatat, subadnato.

Diam. 3, alt. 3 mill.

_Hab._ New Zealand.

9. **Helix Keppelli.** _H._ testa suboblecte perforata, depressa, tenui, lævigata (sub lente minute striolata), nitida, pellucida, fulvo-cornea; spira brevissime conoidea, obtusula; sutura simplice, impressa; anfract. 5½, vix convexiusculis, sensim accrescentibus, ultimo non descendent, peripheria rotundato, basi subexcavato; apertura parum obliqua, late lunari; perist. simplice, recto, marginibus vix convergentibus, columnari arcuatim descendente, superne calloso, breviter reflexo, adnato.

Diam. maj. 16, min. 14, alt. 8 mill.

_Hab._ San Cristoval, Salomon’s Islands (Capt. Keppell).
10. *Helix mediocris.* *H.* testa vix subperforata, depressa, discoidea, tenui, laxigata, albido-hyalina; spira subplana; sutura impressa, submarginata; anfract. 4, vix convexusculis, sensim accrescentibus, ultimo antice subdilatato, non descendente, rotundato, basi subexcavato; apertura verticali, late lunari; perist. simplice, recto, marginibus subconniventibus, deztro fortiter, basali leviter arcuato.

Diam. maj. 5, min. 4½, alt. 2½ mill.

*Hab.* Santa Ana, New Granada.

11. *Helix Swifti.* *H.* testa angustissime umbilicata, convexo-depressa, tenui, conferdima capillaceo-striata, sericea, fusco-cornea; spira parum elevata, vertice subtili; sutura impressa; anfract. 4, vix convexusculis, sensim accrescentibus, ultimo non descendente, rotundato, peripheria obsolete angulata, circa perforationem subexcavato; apertura parum obliqua, late lunari; perist. simplice, recto, marginibus distantiibus, columellari declivi, superne dilatato, patente.

Diam. maj. 12½, min. 11, alt. 6 mill.

*Hab.* St. Thomas (Blund), and Porto Rico, West Indies.

12. *Helix subconoidea.* *H.* testa angustissime perforata, depressa, tenui, fragile, superne distincte costulata, pellucida, cornea; spira brevissimc conoidea, vertice obtuso; anfract. 5, convexusculis, lente accrescentibus, ultimo non descendente, supra medium subangulato, basi modice convexo, distanter radiato-striolato; apertura parum obliqua, superne dilatato, oblique angulato, periphery obsolete angulato; perist. simplice, recto, marginibus vix convergentibus, columellari leviter arcuato, ad perforationem vix reflexusculo.

Diam. maj. 10½, min. 9½, alt. 5½ mill.

*Hab.* Ceylon (Mr. Thwaites).

13. *Helix Newcombi.* *H.* testa angustissime perforata, depressa, tenui, conferdissime rugoso-striata, vix sericea, pellucida, cornea; spira brevissimc conoidea, acutiuscula; sutura impressa, subrenata; anfract. 3½, convexusculis, rapide accrescentibus, ultimo non descendente, periphery obsolete angulato, basi convexo; apertura diagonali, lunato-subcirculati, intus margaritaceae; perist. simplice, recto, marginibus approximatis, columellari perarcuato, superne vix reflexusculo.

Diam. maj. 11, min. 9, alt. 6 mill.

*Hab.* Oahu, Sandwich Islands (Dr. Newcomb).

14. *Helix Platti.* *H.* testa perforata, depressa, tenui, membraneco-costulata et longe pilosa, diaphana, cornea; spira brevissimc conoidea, acutiuscula; anfract. 5½, vix convexusculis, sensim accrescentibus, ultimo non descendente, superne subplano, obsolete angulato, basi convexo; apertura vix obliqua, late lunari; perist. simplice, recto, marginibus distantibus, basali levissime arcuato, columellari superne perdilatato, fornicate reflexo.

Diam. maj. 10, min. 9, alt. 6 mill.

*Hab.* Natal, South Africa (Mr. Platt).
15. **Helix isabellina.** *H. testa perforata, depressa, tenui, minutissime granulato-ruguLOsa, sericea, pellucida, pallide isabellina; spira brevissima, conveXa, vertice subprominulo; sutura lineari; anfract. 5, subplanis, sensim accrescentibus, ultimo acute carinato, antice non descendent, basi infato; apertura obliqua, lunato-securiformi; persist. recto, acuto, margine basali regulariter arcuato, colunmellari superne in laminam brevem, triangularem reflexo.*

Diam. maj. 33, min. 27, alt. 14 mill.
*Hab.* Ceylon (Mr. Thwaites).

16. **Helix Moretonensis.** *H. testa perforata, conoideo-lenticulari, tenui, superne subarcuato-plicata, haudd nitida, rufa; spira conoidea, subacuminata; sutura simplice, impressa; anfract. 5½, convexiusculis, lente accrescentibus, ultimo non descendent, peripheria subacute carinato, basi convexo, sublaevigato, albido; apertura obliqua, subangulato-lunaria, intus margarietacea; persist. recto, acuto, marginibus subparallelis, colunmellari superne in laminam brevem, latam, triangularem reflexo.*

Diam. maj. 19, min. 17, alt. 10 mill.
*Hab.* Moreton Bay, Australia (Mr. Strange).

17. **Helix glaberrima.** *H. testa umbilicata, depressa, solidula, glaberrima, nitidissima, pallide corneo-lutescente; spira parum elevata, vertice subtili, subprominulo; sutura obsolete marginata; anfract. 5½, modice convexis, sensim accrescentibus, ultimo non descendent, subdepresso, basi albido, planiusculo; apertura fere obliqua, lunata, dextrorsum producta, intus margaritacea; persist. simplice, recto, marginibus convergentibus, colunmellari oblique ad umbilicum mediocrem, pervium ascendente, superfine vix dilatato, patente.*

Diam. maj. 12, min. 10½, alt. 5½ mill.
*Hab.* Salomon’s Islands.

18. **Helix Santanaensis.** *H. testa umbilicata, conoideo-depressa, tenui, striatula, nitida, pellucida, lutescenti-hyalina; spira brevissime conoidea, vertice subtili; sutura profunda; anfract. 5, convexis, angustis, ultimo vix latiore, non descendent, terete; umbilico conico, ⅓ diametri fere aequante; apertura parvula, parum obliqua, rotundato-lunari; persist. simplice, recto, marginibus vix convergentibus, umbilico latiusculo, diametri superante, conico; apertura parvula, obliqua, lunato-rotundata; persist. simplice, recto, marginibus convergentibus, colunmellari superne vix reflexiuculo.*

Diam. maj. 4½, min. 4, alt. 2½ mill.
*Hab.* Santa Ana, New Granada.

19. **Helix Kawaiensis.** *H. testa umbilicata, convexo-depressa, tenuiuscula, sublaevigata, cerea; spira conveXa, obtusula; sutura impressa; anfract. 4½, convexiusculis, lente accrescentibus, ultimo non descendent, terete; umbilico latiusculo, ⅔ diametri superante, conico; apertura parvula, obliqua, lunato-rotundata; persist. simplice, recto, marginibus convergentibus, columnellaris superne vix reflexiusculo.*

Diam. maj. 3½, min. 3, alt. 1½ mill.
*Hab.* Kawai, Sandwich Islands (Dr. Newcomb).
20. Helix subangulata. *H. testa umbilicata, convexo-depressa, solidula, striatula, vix nitidula, cerea, fascia angusta, castanea prope suturam, duabusque latioribus infra peripheriam ornata; spira brevi, convexa, obtusa; anfract. 4½, convexiusculis, sensim accrescentibus, ultimo non descendentae, peripheria subangulata, basi subplano; apertura obliqua, rotundato-subtetrangona; perist. simplice, recto, marginibus subparallelibus, columna juxta umbilicam mediocrum, conicum dilatato, patente.

Diam. maj. 17, min. 14, alt. 8 mill.

*Hab. Van Diemen’s Land.*

21. Helix Hondana. *H. testa umbilicata, convexo-depressa, striatula, pallide lutescente, prominulo; anfract. 6, parum convexis, lente accrescentibus, ultimo non descendentae, depresso-rotundata; umbilico latissimo, ¾ diametri superante; apertura parvula, obliqua, rotundato-lunari; perist. simplice, recto, marginibus conniventibus, basali regulariter arcuato.

Diam. maj. 7½, min. 7, alt. 3½ mill.

*Hab. Honda, New Granada.*

22. Helix strongylodes. *H. testa umbilicata, convexo-depressa, solidula, oblique costulata, albida, maculis rufis superne varie-gata; spira parum elevata, obtusa; anfract. 6, sensim accrescentibus, primis planiusculis, sequentibus convexis, ad suturam luminis, ultimo non descendente, terete; umbilico perspectivo, ¼ diametri aquante; apertura diagonalis, lunato-rotundata; perist. simplice, recto, marginibus subconvergentibus, columna superne fornicatim patente.

Diam. maj. 19, min. 16½, alt. 8½ mill.

*Hab. Texas.*

23. Helix bullacea. *H. testa umbilicata, convexo-depressa, tenui, superne confertissime capillaco-striata, sericea, pellucida, pallide cornea; spira vix convessa, vertice subtili; sutura simplice, impressa; anfract. 4, convexiusculis, celeriter accrescentibus, ultimo antice non descendentae, peripheria rotundata, levigato, basi convexo, radiato-striato, corneo-virente; umbilico mediocrum, conico; apertura magna, obliqua, lunato-rotundata, intus margaritacea; perist. simplice, recto, marginibus conniventibus, columna superne triangulatim patente.

Diam. maj. 17½, min. 14, alt. 9 mill.

*Hab. Moreton Bay, Australia (Mr. Strange).*

24. Helix lampra. *H. testa umbilicata, convexo-depressa, tenui, subarcoval confertissime striata, nitidissima, saturate virenti-castanea; spira parvula, convexa, vertice obtuso; anfract. vix 4, convexiusculis, rapide accrescentibus, ultimo non descendentae, rotundata, basi laeviore, virenti-flavo; apertura obliqua, lunato-circulari, intus caerulescence; perist. simplice, recto, marginibus convergentibus, supero antrorsum dilatato, columna
leviter arcuato, juxta umbilicum angustum, vix pervium breviter fornicato-patente.

Diam. maj. 20, min. 16, alt. 10 mill.

Hab. Van Diemen's Land.

25. Helix excisa. *H. testa umbilicata, depressa, tenuiuscula, confertim arcuato-costellata, diaphana, pallide lutescente; spira vix convexa; sutura impressa; anfract. 4, vix convexiusculus, lente accrescentibus, ultimo non descendente, subdepresso, basi angustiore; umbilico latissimo, \( \frac{3}{8} \) diametri subaequante; apertura minuta, obliqua, lunato-rotundata; perist. simplice, recto, marginibus convergentibus, dextro superne recedente, subexciso.

Diam. maj. 4\( \frac{1}{2} \), min. 4, alt. 2 mill.

Hab. Santa Ana, New Granada.

26. Helix euspira. *H. testa umbilicata, depressa, discoidea, solidula, arcuato-striata, lineis impressis spiralis irregulatis dissimulata, sub epidermide nitida, viri-ntula alba; spira plana; sutura parum impressa; anfract. 4\( \frac{1}{2} \), subplanulatis, sensim accrescentibus, ultimo non descendente, depresso; umbilico perspectivo, \( \frac{3}{8} \) diametri fere aequante; apertura obliqua, lunato-rotundata; iatus marmoraticeae; perist. simplice, recto, marginibus convergentibus, dextro antortorum dilatato, columellari brevissime patente.

Diam. maj. 26, min. 22\( \frac{1}{2} \), alt. 9 mill.

Hab. Brazilis.

27. Helix Thomasi. *H. testa umbilicata, depressa, subdiscoidea, tenui, striatula, parum nitente, lutescenti-zyalina; spira subplana; sutura impressa; anfract. 5, convexiusculus, lente accrescentibus, ultimo non descendente, subdepresso; umbilico perspectivo, \( \frac{4}{5} \) diametri fere aequante; apertura obliqua, lunato-rotundata; perist. simplice, recto, marginibus conniventibus, dextro antortorum subdilatato, columellari superne vix patente.

Diam. maj. 7\( \frac{1}{3} \), min. 6\( \frac{1}{2} \), alt. 3\( \frac{1}{3} \) mill.

Hab. Marmato, New Granada.

28. Helix bombycina. *H. testa umbilicata, depressa, discoidea, tenui, costulis confertis, subarcuatis, subtilis minoribus sculpta, sericea, fulva, fasciis permultis castaneis ornata; spira subplana; sutura impressa; anfract. 4, vix convexiusculus, celeriter accrescentibus, ultimo depresso, antice non descendente, basi parum convexo; umbilico perspectivo, \( \frac{4}{5} \) diametri subaequante; apertura diagonalis, lunato-circulari; perist. simplice, recto, marginibus approximatis, dextro antortorum subdilatato, basali perarcuato, ad umbilicum vix dilatato.

Diam. maj. 14\( \frac{1}{2} \), min. 11\( \frac{1}{2} \), alt. 6 mill.

Hab. Van Diemen's Land.

29. Helix ammonoceras. *H. testa umbilicata, depressissima, tenui, arcuato-striata, nitida, pellucida, pallide cornea; spira minuta, subimmersa; sutura profunda; anfract. fere 4, planiusculus, rapidè accrescentibus, ultimo non descendente, depressissima, peri-
pheria obsolete angulato, basi anguistiore; umbilico lato, \(\frac{1}{3}\) diametri subaquante; apertura obliqua, subtriangulari-lunari; perist. simplice, recto, marginibus vix convergentibus, supero substricto, antrosum dilatato, basali arcuato.

Diam. maj. 4\(\frac{1}{2}\), min. 3\(\frac{3}{4}\), alt. vix 1\(\frac{1}{2}\) mill.

_Hab._ Santa Ana, New Granada.

30. **Helix membranicosta.** _H._ testa mediocriter umbilicata, trochiformi, tenui, costulis radiantis membranaceis, praserit facie inferiore munita, parum nitida, fusco-cornea; spira conica, acutiuscula; anfract. 7, convexiusculis, lente accrescentibus, ultimo non descendentе, peripheria carinato, subts convexiore; apertura obliqua, subtetragono-lunari; perist. simplice, recto, marginibus remotis, columnari superne dilatato, patente.

Diam. maj. 11, min. 10, alt. 7 mill.

_Hab._ Salomon's Islands.

31. **Helix Navigatorum.** _H._ testa mediocriter umbilicata, lentiformi, solidula, oblique striata, sub epidermide nitida, purpurascenti-fusca rubello-grisea; spira convexa, obtusa; sutura marginala; anfract. 5, convexiusculis, sensim accrescentibus, ultimo non descendentе, supra medium compresse carinato, basi convexiore; apertura diagonali, lunato-rotundata, subangulata; perist. recto, obtuso, marginibus subconvergentibus, supero antrorsum subdilatato, basali arcuato, prope umbilicum vix dilatato, patente.

Diam. maj. 18\(\frac{1}{2}\), min. 16, alt. 7\(\frac{1}{2}\) mill.

_Hab._ Navigators' Islands.

32. **Helix semiconvexa.** _H._ testa umbilicata, depressa, tenuiuscula, minute striata, castanea, sericeа; spira vix elevata, medio pallida, vertice subtili, obtuso; sutura impressа, distincte marginala; anfract. 4\(\frac{1}{2}\), convexiusculis, sensim accrescentibus, ultimo non descendentе, peripheria compresse carinato, basi inflato, umbilico mediocrе, conico; apertura obliquа, secuриfоrmе, intus carulescente; perist. simplice, recto, marginibus vix convergentibus, basali perarcuato, ad umbilicum subdilatato, patente.

Diam. maj. 14, min. 11\(\frac{1}{2}\), alt. 6\(\frac{1}{2}\) mill.

_Hab._ Salomon's Islands.

33. **Helix Pirrieana.** _H._ testa perforata, globoso-conica, tenui, levigata (sub lente vix striatula), pellucida, cornea; spira convexo-conica, acutiusculа; sutura impressа, marginalа; anfract. 7-8, convexiusculis, angustissimis, ultimo carinato, non descendentе, basi convexо, intus ter bidenticulato; denticulis subaequalibus, extus pellucidentibus; apertura vix obliquа, depressа, angulato-lunari, denticulorum pari antico coarcata; perist. simplice, rectо, marginе columellari ad perforationem apertam dilatato, reflexo.

Diam. maj. 5, min. 4\(\frac{1}{2}\), alt. 4 mill.

_Hab._ Walaghat, Koonдаh Mountains, near Calicut, India (Mr. Pirrie).

34. **Helix radiaria.** _H._ testa subobtecte perforata, trochiformi, tenuiuscula, striatula, parum nitente, diaphana, luteo-albida, su-
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perne strigis spadiceis irregulariter signata; spira conoidea, obtusula; anfract. 5\(^{1/2}\), convexiusculis, sensim accrescentibus, ultimo non descendente, peripheria obsoletissime angulato, basi unicolore, subplano; apertura fere diagonali, lunari, intus nitida; perist. subsimplice, marginibus distantibus, dextro recto, antrorsum dilatato, basali incrassato, declivi, superne subdilatato.

Diam. maj. 10, min. 9, alt. 7 mill.

_Hab._ Salomon's Islands.

35. **Helix scytodes.** _H._ testa umbilicata, conoidea, tenuissima, sub lente granulato-rugosa, vix nitidula, rubello-cornea; spira regulariter conoidea, obtusula; sutura rufo-marginata; anfract. 6\(^{1/2}\), convexiusculis, lente accrescentibus, ultimo peripheria acute rufo-carinato, antice vix descendente, basi convexo, circa umbilicum mediocrem obsolete compresso; apertura diagonali, lunato-rotundata; perist. tenui, marginibus conniventibus, supero leviter arcuato, recto, basali breviter reflexo, columellari subverticali, subdilatato, patente.

Diam. maj. 14, min. 13, alt. 7 mill.

_Hab._ Salomon's Islands.

36. **Helix luteo-cornea.** _H._ testa subangustate umbilicata, conoeo-lentiformi, solida, capillaceo-striata, sericea, luteo-cornea; spira convexa, vix conoidea, obtusa; sutura simplice, impressa; anfract. 5, convexis, sensim accrescentibus, ultimo non descendentem, medio angulato (angulo antrorsum obsoleteiro), basi subconvexo; apertura diagonali, lunato-rotundata, intus albida, nitida; perist. simplice, marginibus subconvergentibus, supero leviter arcuato, recto, basali incrassato, prope umbilicum subdilatato, patente.

Diam. maj. 18, min. 16, alt. 8\(^{1/2}\) mill.

_Hab._ Navigators' Islands.

37. **Helix aeruginosa.** _H._ testa imperforata, globoso-depressa, tenuissima, striata, nitidula, virenti-albida; spira convexa, vix conoidea, obtusa; sutura simplice, impressa; anfract. 4, convexiusculis, sensim accrescentibus, ultimo non descendentem, inflato, peripheria obsolete angulato, ad suturam aerugineo-fasciato; columella declivi, vix arcuata, subexcavata, alba; apertura obliqua, late lunari; perist. vix reflexusculo, marginibus subconvergentibus, dextro sinuoso, basali arcuatim in columellam abeunte.

Diam. maj. 31, min. 26, alt. 18 mill.

_Hab._ Philippine Islands.

38. **Helix abnormis.** _H._ testa imperforata, trochiformi, solida, minute granulata, haud nitente, rufo, sursum alba; spira conoidea, obtusa; anfract. 5\(^{3/4}\), convexis, lente accrescentibus, ultimo antice vix descendente, peripheria subrotundata, basi plano; apertura fere horizontali, rotundato-lunari; perist. subincrassato, marginibus parallelis, callo tenui junctis, supero breviter expanso, basali ad dextram dentem conicum gerente, versus regionem umbilicalem sensim dilatato, reflexo, adnato.

Diam. maj. 42, min. 35, alt. 23 mill.

_Hab._ Jamaica.
39. Helix sannio. H. testa sinistrorsa, angustissime umbilicata, turbinato-depressa, solida, oblique costulato-striata, vix nitidula, superne pallide flavicante; spira conoidea, obtusula; anfract. 6½, vix convexusculus, lente accrescentibus, ultimo non descendente, antice rugato, peripheria carinato, subitus convexo, cinnamomeo; apertura diagonalis, lunaris, intus alba, nitida; perist. incrassato, breviter reflexo, marginibus distantibus, basali substricto, superne sinuato, in laminam triangularem reflexo.
Diam. maj. 38, min. 32½, alt. 21 mill.
Hab. ——?

40. Helix mansueta. H. testa umbilicata, depressa, tenuiuscula, striatula et sub lente minutissime granulata, non nitente, nigro-rufa vel cinnamomea; spira brevissime conoidea, vertice subtili; sutura impressa; anfract. 5, convexusculus, sensim accrescentibus, ultimo antice vix descendente, peripheria obsolete angulato, circa umbilicum apertum, mediocrem saturata fasciato; apertura obliqua, lunaris; perist. roseo, breviter expanso, marginibus distantibus, columellari superne dilatato, fornicato-patente.
Diam. maj. 15½, min. 13½, alt. 8 mill.
Hab. Moreton Bay, Australia (Mr. Strange).

41. Helix Marmatensis. H. testa umbilicata, depressa, tenuiuscula, vix striatula, albida, superne maculis castaneis fasciatis dispositis ornata; spira plana, vertice subtili vix prominente; anfract. 4½, convexis, ultimo rotundato, antice vix descendente, circa umbilicum angustum obsolete compresso; apertura obliqua, rotundato-lunaris; perist. tenui, marginibus convergentibus, dextro breviter expanso, columellari superne dilatato, patente.
Diam. maj. 12, min. 10½, alt. 6 mill.
Hab. Marmato, New Granada.

42. Helix scepsama. H. testa umbilicata, conoidea, solida, ruguloso-striata, opaca, alba; spira regulariter conoidea, vertice acutissimo; sutura subimpressa; anfract. 7, vix convexusculus, lente accrescentibus, ultimo antice paululum descendente, peripheria acuta carinato, basi circa umbilicum mediocrem, profundum turgido; apertura diagonalis, lunaris; perist. subincrassato, angulatim reflexo, marginibus vix convergentibus, columellari breviter patente.
Diam. maj. 20, min. 18, alt. 11 mill.
Hab. ——?


1. Bulimus vitellinus, Pfr. B. testa umbilicata, globoso-conica, solidula, oblique striata, nitidula, luteo-fulva; spira conica, apice obtusa; anfract. 6, rotundatis, ultimo spiram equante, medio obtuse angulato, circa umbilicum apertum, non pervium subcom-
presso; apertura diagonali, lunato-ovali, intus submargaritacea; perist. tenui, recto, margine columellari leviter arcuato, sursum valde dilatato, fornicato-patente.
Long. 22, diam. 16 mill.
Hab. Natal.

2. Bulimus pictus, Pfr. B. testa anguste umbilicata, ovato-conica, tenuiuscula, sublevigata, pallide lutea, fasciis spadiceis, interruptis strigisque sparseis elegantissime subtessellata; spira conica, acutiuscula; sutura levissime crenulata; anfract. 7, convexus, ultimo \( \frac{2}{3} \) longitudinis equante, basi rotundato, infra medium et circa umbilicum fasciis non interruptis signato; apertura parum obliqua, elliptico-ovali; perist. simplice, recto, margine dextro regulariter arcuato, columellari leviter arcuato, sursum dilatato, fornicato-patente.
Long. 23, diam. 11 mill.
Hab. Peru.

Long. 21, diam. 10 mill.
Hab. New Hebrides.

4. Bulimus Galapaganus, Pfr. B. testa compresse umbilicata, ovato-turrita, tenui, striatula, sericea, pellucida, corneo-cerea; spira convexo-turrita, acutiuscula; sutura submarginita; anfract. 8, convexis, ultimo \( \frac{3}{4} \) longitudinis subaequante, juxta umbilicum compresso; apertura subverticalis, oblongo-ovali; perist. simplice, margine dextro vix expansiusculo, superne arcuato, cum columellari introrsum subtorto, patente angulum formante.
Long. 15½, diam. 6 mill.
Hab. Galapagos Islands.


Genus Acteon, Montfort.

Head in the form of a quadrate disk, bilobed in front, with broad posterior tentacular lobes; eyes sessile, on the middle of the head; mantle included; branchial plume single.
Operculum horny, sub-spiral.
Shell thin, ovate, transversely striated; spire produced, acute; aperture narrow, elongated, anteriorly rounded and entire; inner lip thin; columella with a single oblique spiral fold.


1. **Aecln tornatilis**, Linnaeus.

2. **Aecln flammeus**, Gmelin.

3. **Aecln virgatus**, Reeve.


5. **Aecln oryza**, Reeve.


7. **Aecln venustus**, D'Orbigny.


9. **Aecln puncto-striatus**.
   *Tornatella puncto-striata*.

10. **Aecln Cumingii**, A. Adams. *A. testa ovali, subcylindracea, carnea, spira exserta, anfractibus convexis, transversim sulcata, sulcis pulcherrime cancellatis, longitudinaliter striata; columella antice uniplicata; apertura intus alba; labro acuto, postice subsinuato.*
    This species somewhat resembles *A. tornatilis* in appearance; but it is of a uniform flesh-colour, and the whorls are strongly sulcate, the grooves being prettily crenate at their margins and finely cancellated.

11. **Aecln Diane**, A. Adams. *A. testa ovato-conica, umbili-
cata, spira elata, anfractibus convexit, ultimo ventricoso alba, transversim valde lirata, interstitiis concinne clathratis; apertura ovali; columnella uniplicata; labio antice subreflexo; labro margine crenulato.

_Hab._ Japan (Dr. Siebold).  _Mus._ Cuming.

This species is ovately conical, with the last whorl ventricose; it is of a pure white, with the whorls strongly lirate and the interstices punctate; the plait on the columella is situated in the middle, and is not very strongly produced.

12. _Acteón pudicus_, A. Adams. _A. testa ovali, subcylindracea, subumbilicata, solida, sordide alba, subcarnea, spira elatiuseula; anfractibus convexis, transversim sulcatis, sulcis æqualibus, punctatis; apertura oblonga; columnella valde uniplicata._

_Hab._ Cagayan, Mindanao.  _Mus._ Cuming.

For an _Acteón_, this species is rather solid; the shell, though worn, exhibits a delicate pinkish tinge, and the whorls are strongly punctate-striate.

13. _Acteón Marie_, A. Adams.  _A. testa ovato-cylindracea, spira obtusa, longitudinaliter substriata, transversim lirata, liris in medio sulco impresso, interstitiis concinne clathratis, sordide alba, fasciis duabus transversis, cinereis ornata; apertura oblonga; columnella uniplicata._

_Hab._ China Seas.  _Mus._ Cuming.

In this species the whorls are ornamented with two spiral, transverse, ash-coloured bands, and the liræ are double, each being divided in the middle by a fine transverse groove.

14. _Acteón modestus_, A. Adams.  _A. testa elongato-conica, subpellucida, tenui, alba, spira turrito-acuta, anfractibus convexiusculis, transversim sulcata, sulcis æquidistantibus, punctatis, longitudinaliter striata; apertura ovali; columnella obliqua, uniplicata._

_Hab._ Corregidor, 7 fathoms.  _Mus._ Cuming.

This is an elongated semipellucid species, resembling more a _Monoptygma_ than an _Acteón_, with the spire elevated, and the plait on the columella near the hind part.

**Genus Solidula, Fischer.**

Animal as in _Acteón_.

Operculum transverse, elongated, curved, with imbricate elements and a linear scar.

Shell thick, solid, ovate, transversely sulcate; spire elevated, acute; aperture longitudinal, narrow, entire and rounded in front; inner lip callous; columella with two plaits, the anterior grooved and continued into the outer lip.


*Hab.* China Seas; New Ireland; Borneo; Philippines. Mus. Cuming.

This species most nearly resembles *S. solidula*; the colour varies from uniform reddish-brown to whitish, tessellated with ashy or blackish markings.


*Hab.* Island of Luzon, sandy mud. Mus. Cuming.

In this species the hind tubercle usually present in *Solidula* is wanting; the colour varies from pure white to greyish, with grey tessellated markings; the chief peculiarity of the species consists, however, in the canaliculated suture of the whorls.

9. *Solidula pusilla*, A. Adams. *S. testa ovato-conica, parva, alba, solida, nitida, spira exserta, apice obtuso, transversim radde sulcata, sulcis distantibus, cancellatis; apertura elon-
gata, postice attenuata; columnella biplicata, plica postica tuberculiformi, antica biloba.

Hab. Catbalonga; Samaar, 8 fathoms; Philippines. Mus. Cuming.

This is a small white solid species, resembling in appearance the Actaeon oryza of Reeve; but the columella is biplicate, and the front plica is double.


By G. P. Deshayes.

1. Mactra aphrodina, Desh. M. testa transversa, ovato-trigona, tenui, depressiuscula, inaequilaterali, albidio-violacea, zonulis transversis, saturatioribus irregulariter interrupta, transversim regulariter eleganterque striata; latere antico paululum attenuato, superne recto, declivi, postico aequaliter obtuso; umbonibus minimis, acutis, parum prominentibus, albidis; cardine angusto, utroque latere violaceo-maculato; fossula minima, angusta, obliqua, dentibus lateralis lamellosis; valvis intus vivide violaces in medio pallidioribus; impressione pallii margine inferiore remoto, sinu angusto, brevi, horizontali.

Hab. ——? Coll. Cuming.

2. Mactra attenuata, Desh. M. testa ovato-trigona, transversa, tenui, turgida, inaequilaterali, transversim irregulariter striatissima, livide violacea, ad umbones atro-violacea, intus pallidior violacea; latere antico breviore, obtuso, superne declivi, latere postico declivi, attenuato; umbonibus brevibus, parum obliquis, approximatis; area elongato-ovata lunulaque tenue striata; cardine angusto, fossula profunda, dentibus lateralibus lamellosis, prominentibus, antico multo breviore; sinu pallii lato, vix excavato.

Hab. ——? Coll. Cuming.

3. Mactra contraria. M. testa ovato-trigona, æqualiter subsymmetrica, compressiuscula, nitida, transversim obsolete tenuissime striata, utroque latere æqualiter convexiuscula, declivi, latere inferiore valde arcuato, latere antico et postico subangulatis; lunula areaque sulcatis, sulcis lunulae convergentibus, inferne convergentibus, rugis brevibus in extremitate antica contrariis; umbonibus minimis, violaceo-tinctis; valvis tenuibus, pallide stramineis, intus violascentibus; cardine angusto, fossula minima, dentibus lateralibus lamellosis, aequalibus; sinu pallii brevi, angusto.

Hab. ——? Coll. Cuming.

4. Mactra corbiculoides, Desh. M. testa trigona, ventricosinclusa, subaequilaterali, transversim tenue et obsolete striata, griseo-cæruleascente, zonulis angustis, violascentibus transversim interrupta; umbonibus tumidis, levigatis, oppositis, atro-violae-
ceis; latere antico et postico aequaliter declivibus, antico breviore, obtuso, postico attenuato, acuminato, margine inferiori in medio valde convexo; lunula planulata, tenue et regulariter striata; area angulo obtuso circumscripta, tenue striata; cardine angusto, fossula minima; dentibus lateralis crassisculis, brevibus, aequalibus, prominentibus; sinu pallii brevissimo; vix inflexo; valvis intus profunde violaceis. 


5. Mactra corbuloides, Desh. M. testa M. donaciformi similima sed multo minore, aequaliter, turgida, satia solida, alba, laevigata; latere antico obtuso, postico acuminato, angulo de-currente acutiusculus notato; area magna, subplana, laevigata; lunula elongato-lanceolata, angulo obsoletissimo circumscripta; cardine solido, fossula minima angusta, recta, dentibus lateralis brevibus, tenue perpendiculatere sulcatis; sinu pallii brevissimo, lato, fere semicirculari. 

Hab. ———? Coll. Cuming.

6. Mactra decora, Desh. M. testa ovato-transversa, turgida, inaequaliteri, nitida, ex albo et violaceo eleganter radiata et transversim zonata; latere antico paulo breviore, obtuso, transversim tenue et regulariter sulcato, sulcis in medio evanescentibus; umbonibus tumidulis, atro-violaceis, parum distantibus; lunula bicolorata, albo et violaceo regulariter plicata; area concavisscula, tenue plicata. 

Hab. ———? Coll. Cuming.

7. Mactra dissimilis, Desh. M. testa transversa, ovato-trigona, inaequaliteri, turgida, nitida, albo-grisea, ad margines rufosecente, aliquantisper zonulis transversis, cærulescensibus interrupta, intus rubro-violacea; latere antico paulo breviore, obtuso, superne recto, declivi, latere postico superne conexusculo, extremitate obtuso; umbonibus brevibus, acutis, postice obtuse angulata; lunula areaque distinctis, eleganter sulcatis; valvis regulariter transversim tenue sulcatis, sulcis inferne continuis, superne ad umbones et latus posticum evanescentibus. 


8. Mactra hepatica, Desh. M. testa transversa, oblique trigona, inaequaliteri, turgidissima, laevigata, nitida, antice solum modo brevi-striata, intus extusque colore hepatica infucata; umbonibus tumidis, apice acutis, nigro-violaceis, distantibus; latere antico breviore, obtuso, superne recto vel concavissculo, postico obtuse angulato; lunula areaque depressis, ovatis, sub-aequalibus, tenuiiter striatis; cardine angustissimo, fossula parva, obliqua, dente V-formi duabus partibus valde inaequalibus composita, dentibus lateralis brevibus, angustissimis, antico multo minore; linea pallii margine inferiore proxima; sinu pallii brevi, oblique semicirculari. 

9. **Mactra incongrua**, Desh. *M. testa ovato-trigona, obliqua, inaequilaterali, turgida, cordiformi, subepidermide squalide flavescente alba, hecigata, transversim substriata, latere antico breviore, declivi, rectilineari, obtuso, postico convexiusculo, subangulato; umbonibus tumidis, acutis, parum obliquis; lunula ovata, planulata, areaque posticali in medio carinulata, tenuiter plicatis; cardine angusto, fossula brevi, angusta, obliqua, dentibus lateralibus compressis, subequalibus, antico paulo breviore; impressione pallii lata; sinu brevi, obliquo, lato.

**Hab.** Luzon, Philippines.  
**Coll.** Cuming.

lariter convexo; lunula magna, angulo obtusissimo superne circumscripta, plicata, macula elongata, rufescence notata, plicis latis, abrupte terminatis; area magna, obsolete plicata, angulo obtuso circumdata; umbonibus acutis, brevibus, oppositis; cardine angusto; dente cardinali tenui, brevissimo, sub angulo recto aperto; fossula lata explanata; dentibus lateralibus compressis, longiusculis, æqualibus; sinu pallii brevi, lato, obtuso, sub-trigono.

Hab. New Zealand.

14. Mactra opposita, Desh. M. testa parvula, transversa, trigona, turgida, subæquilaterali, transversim obsolete sulcata, grisea, radiis numerosis ruﬁs, pallidis, interruptis pica, intus violaceo transversim zonulata; umbonibus acutis, brevibus, oppositis, apice violaceis; latere antico posticoque æqualiter declivibus, angulo obtuso æqualiter distinctis; lunula areaque planulatis, tenue striatis, macula violacea notatis; cardine angusto; fossula cardinale minima, angusta, dentibus lateralibus compressis, prominentibus, postico breviore; sinu pallii lato, satiis profundo, obtuso, superne parum dilatato.


15. Mactra radiolata, Desh. M. testa trigona, obliqua, ine æqualiterali, turgida, cordiformi, sub epidermide ﬂavescente, tenui alba, intus extusque elegantem ruﬁ-rubescente radiata; latere antico paulo breviore, late rotundato, postico rapide declivi, attenuato; lunula areaque plano-concaviusculis, regulariter striatis; umbonibus tumidiis, prominentibus, parum obliquis; cardine crassiussculo, fossula profunda, dentibus lateralibus laminatis, prominentibus, triangularibus; sinu pallii brevi, oblique semicirculari.


16. Mactra scalpellum, Desh. M. testa transversa, angusta, late trigona, æqualiterali, subsymmetrica, superne æqualiter declivi, anterius tantiisper obtusior, utroque latere attenuato, inferne regulariter convexa, albo-cornea, nitidissima, area lunulataque tenue plicatis; cardine in medio dilatato, fossula basi prominente, trigona, lata; dente cardinali parvo, obliquo, dentibus lateralibus lamellosis, antico paulo longiore; sinu pallii elongato.

Hab. New Zealand.

17. Mactra sericea, Desh. M. testa ovato-transversa, tumida, tenui, subæquilaterali, postice paulo hiante, epidermide sericea, tenue striata vestita, laevigata substriatave, latere antico paulo breviore, compressiusculo, rotundato, postico paulo magis attenuato, marginæ inferiore regulariter arcuatæ; umbonibus acutis, brevibus, apice violaceis; area planulata, vix convexa, sulcata, lunula æqualiter sulcata, in medio carinata; cardine

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angusto; fossula angusta, obliqua, dentibus lateribus elongatis, antico basi longe et profunde foveolato; sinu pallii lato, parum profundo, oblique ascendente.  


18. Mactra transversa, Desh. M. testa ovato-oblonga, transversa, angusta, subaequilaterali, solida, compressa, alba, transversin regulariter striato-sulcata, antice declivi, acuminata, postice angulo acuto inferne terminata, oblique truncata, angulo decurrente notata; umbonibus parvis, acutis, oppositis; cardine angusto, fossula basi lata, obliqua, dentibus lateribus brevibus, angustissimis, parum prominentibus; sinu pallii lato, profundo, obtuso.  


19. Mactra sublanceolata, Desh. M. testa trigona, depressiuscula, subcuneiformi, inaequilaterali, candida, epidermide tenui, flavicante, tenuissime striata vestita, in medio posticeque levigata, antice tenue striata; latere antico obtuso, rotundato, superne declivi, postice attenuato, acuminato, postico angulo obtuso, obliquo distincto; area lata, subplana, lunulaque sulcatis, sulcis parvis numerosis; cardine angusto, fossula minima, basi non prominent; dentibus lateribus brevibus, compressis, sulcatis; sinu pallii minimo, angusto, oblique ascendente.  

Hab. —— ?

20. Mactra dolabrata, Desh. M. testa transversa, trigona, inaequilaterali, tumidula, tenui, fragili, alba, levigata, obsolete tenuissime et irregulariter striata; latere antico longiore, supero concavo, antice obtuso, postico brevi, declivi, truncato, angulato, extremitate acuminato; umbonibus acutis, obliquis, approximatis, apice involutis; area elongata, in medio excavata; dentibus lateribus lamellosis, brevibus, triangularibus, acutis; sinu pallii angusto, brevi, oblique ascendente.  


21. Mactra explanata, Desh. M. testa ovato-subtrigona, compressa, lata, tenui, lactea, subaequilaterali, transversim tenue et obsolete striata; latere antico lato, obtuso, paulo breviore, postico valde declivi, attenuato, compresso, hiante; umbonibus minimis, obliquis, lunula elongato-lanceolata, in medio carinata, elecata, area angusta, concava, angulis duobus inaequilibris circumscripta, angulo proximo obtuso, altera lineari; cardine lato, peculiari, fossula magna, profunda, sub lunula, loco ducis lateralis; dente laterali postice lanellosis, in valva sinistra, in valva dextra inter duas lamellas oblique conniventibus recepto; dente cardinali parvo, fossula ligamenti pyriformi, sinu pallii lato, profundiusculo, obtusissimo.  


22. Mactra virgo, Desh. M. testa ovato-trigona, subaequilaterali, crassa, solida, depressiuscula, irregulariter et transversim
striatissima, incrementi sulcis profundioribus, irregularibus, interrupta, intus extusque candidissima, nitente, utroque latere æqualiter declivi, antice obtusa, postice acuminata, obtuse angulara, umbonibus mininis, aculis, oppositis; lunula areaque levigatis; cardine crasso, lato, fossula mediana, dente cardinali angusta, obliqua, dentibus lateralibus validis, æqualibus; sinu pallii brevi, lato, obtuso, obliquo.

**Hab.** Australia, Swan River. Coll. Cuming.

23. **Mactra carinulata**, Desh. *M. testa trigono-transversa, tumida, cordiformi, æquilaterali, sub epidermide squalide fuscescente alba, obsolete irregulariter striata, æqualiter superne declivi et conexiuscula; latere antico obtusiusculo, postico attenuato, angulo paulo prominent, obtuso distincto; lunula indistincta areaque levigatis; umbonibus angulis, prominentibus, acutis, obliquis, valde distantibus; cardine solidiusculo, fossula trigona, obliqua, profunda; dentibus lateralibus solidiusculis, simplicibus, elongatis, subæqualibus; sinu pallii angusto, profundo, oblique ascendente.

**Hab.** ——? Coll. Cuming.

24. **Mactra angusta**, Desh. *M. testa ovato-transversa, angusta, subtrigona, subæquilaterali, compressa, alba, tenui, fragili, transversim argute et regulariter striata; latere antico paulo brevior, obtuso, superne concaviuscula, latere postico superne declivi, attenuato; area angusta, elongata, planulata, liris dubius parum divergentibus circumscrip ta; umbonibus mininis, parum obliquis, regulariter undato-plicatis; lunula minima, lanceolata; cardine in medio lato, fossula lata, trigona, explanata; dentibus lateralibus brevibus, inæqualibus, postico breviore; sinu pallii oblongo, horizontali, apice obtuso.

**Hab.** Panama. Coll. Cuming.

25. **Mactra bilineata**, C. B. Adams, MSS. *M. testa ovato-transversa, angusta, depressa, inæquilaterali, translucida, alba, sub epidermide pallide flaviscante, tenuissime striata in latere postico fuscescente, latere antico declivi, obtusiusculo, attenuato, postico declivi, latiore, oblique truncato, in truncatura hiante, lineis binis, obliquis, albis, divergentibus distincto; area angusta, plana; lunula indistincta; umbonibus mininis, vix prominentibus, oppositis; cardine lato, fossula magna, lata, basi prominentem, dentibus lateralibus brevibus, inæqualibus, postico breviore; sinu pallii magna, lato, profundo, semi-elliptico.

**Hab.** Jamaica.

26. **Mactra bullata**, Desh. *M. testa ovato-subrotundata, inflata, inæquilaterali, tenuissima, fragili, membranacea, sub epidermide pallide flavescente albo-hyalina, antice oblique gibosa, postice attenuata, late truncata, hiante, latere antico paulo longiore, late rotundato, transversim satis regulariter plicata et
striata, plicis postice evanescentibus; umbonibus angustis, minimis, acutis, oppositis; cardine brevi, in medio latiore, fossula basi producta, profunda, dente cardinale minimo, subcalloso, dentibus lateralisbus nullis; sinu pallii profundo, angusto, a margine remoto.  

27. Mactra Californica, Desh. M. testa transversa, ovato-elliptica, convexiuscula, inaequilaterali, epidermide straminea, nitente vestita, griseo-fuscescente, transversim substriata, antice inter valvulas fissa, postice hiante; latere antico breviore, obtuso, latiore, postico sensim attenuato, rotundato; cardine angusto; dente cardinale valva sinistra compresso; fossula magna, obliqua, parum profunda, basi prominente; dente laterali postico angustissimo, elongato, obliquissimo, laterali antice brevi, parum obliquo, cardine approximato; sinu pallii lato profundoque, horizontali, subspathulato.  

28. Mactra Egena, Desh. M. testa ovato-transversa, compressa, inaequilaterali, candidissima, incrementi irregulariter striata; latere antico brevi, angustato, obtuse attenuato, superne declivi; latere postico latiore, obtuso; area angustissima, profunda, angulo obtuso, irregulariter plicato circumscripta; lunula lanceolata, impressa, ad peripheriam tenue plicata; umbonibus parvis, vix obliquis; cardine in medio lato, fossula magna, subaequilaterali, basi prominente, dente cardinale compresso, dentibus lateralisbus brevis, subaequalibus, angustis, prominentibus, sinu pallii profundo, lato, digitiformi, dimidiam partem valvarum attingente.  

29. Mactra hiantina, Desh. M. testa ovato-transversa, trigona, depressiusula, inaequilaterali, epidermide squalide fuscescente vestita, alba, transversim irregulariter denseque striata; latere antico brevi, valde declivi, attenuato, paululum obtuso, subclauso, postico superne declivi, latiore, truncato, late hiante, linea elevata, oblique decurrente separato; area elongata, in medio canaliculata, angulo angusto distincta; lunula elongata, angusta, depressa; cardine in medio lato, prominente, fossula magna; dentibus lateralisbus brevis, lamellosis; sinu pallii maximo, linguiformi.  
Hab. Puna, Guayaquil.  

30. Mactra pellicula, Desh. M. testa ovato-transversa, tenuissima, alba, hyalina, subaequilaterali, antice oblique gibbosa, latere antico paulo longiore, late rotundato, latere postico attenuato, cuneiformi, subtruncato, hiante, plicis striisque irregularibus notata; umbonibus minimis, acutis, parum obliquis et prominentibus, lunula areaque nullis; cardine angustissimo, dente cardinale minimo, in valva dextra fere nullo, fossula mi-
nima, basi parum prominente, dentibus lateribus vix perspicuis; sinu pallii profundo, horizontali, obtuso.


31. Mactra plicatilis, Desh. M. testa transversa, oblonga, ovata, angusta, inaequaliterali, compressuscula, tenui, fragili, hyalina, transversim plicata, plicis prominentibus, elevatis, regularibus, antice parum obliquis; latere antico paulo breviore, rotundato, postico hiane, paululum angustiore, oblique carinato; area angustissima, plana, levigata, angule obtuso circumdata, lunula inconspicua; cardine angusto; dente cardinali satis magno, lateribus lamellosis, brevibus, prominentibus, triangularibus, acutis; sinu pallii profundo, lato, subtrigono, apice obtuso.


32. Mactra rostralis, Desh. M. testa ovato-transversa turgida, tenui, hyalino-vitrea, inaequaliterali, transversim plicata, plicis regularibus, antice prominentioribus, transversim tenuissime striatis; latere antico paulo longiore, lato obtuso, postico declivi, hiane, attenuato, subrostrato; cardine angustissimo, dente cardinali compresso, fossula minima, dentibus lateribus brevissimis, angustis, cardine approximatis; lunula impressa, plana, ovata.


33. Mactra silicula, Desh. M. testa ovato-transversa, compressuscula, subaequaliterali, postice hiane, candidissima, epidermide pallide flavicante, sericea vestita; latere antico obtuso, superne concaviusculo, postico superne convexusculo, extremitate parumper attenuato; area posticali angusta, in medio concaviuscula, epidermide fuscescence, irregulariter plicata induta, linea elevata circumsirpta; lunula inconspicua; valvis extus argutissime transversim striatis; umbonibus parvis, parum obliquis, politis; cardine in medio lato, fossula magna, dentibus lateribus parvis, brevibus, lamellosis, acutis.


34. Mactra capillacea, Desh. M. testa transversa, ovato-cuneiformis, valde inaequaliterali, tenui, candida, sub epidermide tenui, decidua, straminea, lineis capillaceis, longitudinalibus, parum prominentibus, numerosis, approximatis, irregularibus, inter se confluentibus, sepe interruptis reticulatis intricatis; latere antico brevissimo, obtusissimo, semicirculari, postico semis attenuato, hiane, superne declivi, rectilineo; cardine angustissimo, dente cardinali magno, fossula angusta, postice obliquata; dentibus lateribus parvis, postico longiore; sinu pallii profundissimo, lato, marginibus fere parallelis.


35. Mactra tristis, Desh. M. testa ovata, transversa, compressa, tenui, inaequaliterali, utroque latere hiane, epidermide
squalide fuscescente ad margines induta, transversim irregularker et dense striata, squalide grisea, ferrugineo in medio infusa, intus albo, squalide rufescence; latere antico brevi, rotundato, postico duplo longior, equaliter obtuso; area lunulake nullis; umbonibus depressior, minimis, approximatis, vix obliquis; fossula cardinali lata, trigona, basi produkta; dentibus lateralis minimis, brevibus, antico brevissimo, cardine adnato; sinus pallii magnus, obtuso, basi dilutato.

Hab. Australia, Moreton Bay.

36. **Mactra goniata**, Gray, MSS. B. M.  *M. testa transversa, trigona, aequilaterali, tumida, cordiformi, epidermide tenui, flava, antice posticeque squamosa vestita, alba, irregulariter transversin tenue striata; latere antico superne plano, in medio obtuso, postico angulato, abrupte truncato; area ingentissima, planulata, angulo postico circumscripta, levigata; umbonibus tumidis, acutis, vix obliquis, valde distantiibus; cardine solido, fossula profunda, basi prominently; dentibus lateralis brevibus, compressis, triangularibus, valde elatis; sinus pallii angusto, profundo, digitiformi.

Hab. California.

37. **Mactra angulifera**, Desh.  *M. testa ovato-trigona, transversa, compressa, utroque latere hiante, subaequilaterali, candida, nitida, transversim obsolete et irregulariter striata, latere antico breviori, obtuso, superne concaviscolo, postico declivi, brevi, truncato, angulo acuto, angusto, oblique decurrente notato; umbonibus brevibus, depressius, obliquis, tenue et regulariter plicatis; lunula ovata, levigata, concaviscolata, area angusta, concava; cardine in medio lato; fossula explanata, ovato-trigona, dentibus lateralis elongatis, tenuibus, acutis, dente cardinali brevi, angusto, sinus pallii lato, profundo.


38. **Lutraria impar**, Desh.  *L. testa elongato-transversa, angusta, inaequilaterali, convexisscula, tenui, alba, antice profunde et regulariter transversin plicata, plicis in medio evanidis, latere postico irregulariter striato, undulato; latere antico breviore, paulo latiore, postico paululum attenuato; extremitatiibus aequaliter obtusis; margine inferior recto, superiori fere parallelo, margine dorsali postico canaliculato; dente cardinali prominenti, dente laterali postico brevi, lamelliformis, cardine adnato; sinus pallii profundissimo, usque ad latus anticum attingente, margine superiore oblique declivi, inferiori horizontali.


39. **Lutraria arcuata**, Desh.  *L. testa elongato-transversa, valde inaequilaterali, arcuata, solida, convexisscula, antice posticeque valde hiante, epidermide flavescente, tenui, lucido, posteriori saturatiori vestita, omnino alba, transversim tenue et satis regulariter striata; latere antico brevi, paululum attenuato;
fossa cardinali oblonga, postice obliquata; dente cardinali angusto; sinu pallii magno, lato, extremitate late obtuso, marginebus subparallelis, superiore parumper declivi.


40. _Lutraria australis_, Desh. _L. testa transversim ovata_, breviuscula, lata, inaequaliterali, arcuata, postice late hiante, omnino alba, sub epidermide fuscescente, nitida, postice fusca, transversim irregulariter striata, postice obtuse undulata; late antico paulum attenuato, hiante, postico rotundato; dente cardinali compresso, brevi, fossula magna, parum obliqua basi valde prominente; sinu pallii magno, ad marginem inferioriorem obliquato, apice lato et oblique subtruncato; margine superiore antice posticeque canaliculato.


41. _Lutraria philippinarum_, Desh. _L. testa magna, elongato-transversa_, valde inaequaliterali, crassa, solida, convexa, postice hiantissima, sub epidermide fuscescente alba, transversim, praeclipe antice, striato-rugosa; late antico brevi, regulariter obtuso, postico angulato, attenuato; margine dorsali superiore concaviusculo, inferiore convexiusculo; dente cardinale parvo, fossula magna, excavata, postice obliquata; sinu pallii profundo, basi paulo latiore, apice lato, subtruncato.


42. _Lutraria curta_, Desh. _L. testa ovato-transversa_, brevi, satis lata, convexiuscula, inaequaliterali, alba, rudi, postice irregulariter striato-subplicata, utroque late et praeclipe postice hiante; late antico brevi, regulariter obtuso, postico angustiore, subtruncato; margine superiore postico concaviusculo, inferiori convexiusculo; dente cardinali parvo, angusto, fossula parum obliqua, dilatata; sinu pallii lato, profundo, parum inferne obliquato, marginibus parallelis, extremitate late obtuso, semicirculari.


43. _Lutraria Sieboldii_, Desh. _L. testa regulariter ovato-transversa_, longe elliptica, compressa, tenui, inaequaliterali, utroque late hiante, praeclipe postice, epidermide decidua squalide fusca ad marginis vestita, alba, transversim irregulariter striata et obsolete undulata; margine anteriore brevi, rotundato, postico obtuso; dente cardinali parvo, compresso, fossula postice obliquata, late trigona; sinu pallii inferne obliquato, lato, profundo, subtriangulari, basi dilatato, apice angustiore, obtuso, margine superiore declivi.

_Hab._ Japan. Coll. Cuming.

44. _Lutraria intermedia_, Desh. _L. testa ovato-transversa_, rugosiuscula, inaequaliterali, crassa, solida, antice posticeque valde hiante, convexiuscula, alba, sub epidermide fuscescente,
postice irregulariter plicata, transversim striato-rugosa, postice obscure plicata vel undulata; latere antico multo breviore, superne declivi, in medio attenuato, ventrali dilatato, postico superne parumper concavo, oblique truncato, hiantissimo; umbonibus parvulis, vix prominentibus; dente cardinali in valva sinistra magno, aperto, in dextra compresso; fossula magna, profunda, valde postice obliquata, basi prominente; sinu pallii maximo, fere tam profundo quam lato, obtuso, subtruncato.

Hab. Madagascar.

45. **Lutraria dissimilis**, Desh. *L. testa ovato-transversa, convexuscula, valde inaequilaterali, rugosula, epidermide squalide fuscus vestita, rudi, postice tenue irregulare riter plicata; latere antico brevi, obtuso, hiante, paululum attenuato, superne declivi; latere postico obtuso, valde hiante; margine superiore inferiori parallelo; dente cardinali in valva sinistra angusta, compressa; fossula obliqua, parum excavata; sinu pallii magno, profundissimo, obtuso, parumper ad marginem inferiori declivi.


46. **Zenatia solenoides**, Desh. *Z. testa oblongo-transversa, compressa, valde inaequilaterali, rubro-albicante, sub epidermide fuscescente, postice irregulariter plicato, transversim irregulariter striata; latere antico brevissimo, regulariter semicirculari, latere postico oblique obtuso, late hiante; margine superiore concaviusculo, inferiore fere parallelo; cardine brevi, dente cardinali V-formi, magno, fossula perobliqua, trigona, explanata, oblique prominente; sinu pallii profundo, trigono, apice obtuso, basi lato, oblique ad marginem inferiori declivi.


47. **Zenatia Cumingiana**, Desh. *Z. testa oblongo-transversa, tenui, subpellucida, valde inaequilaterali, depressa, utroque latere hiante, sub epidermide tenui, nitida, alba, transversim obsolete striata; latere antico brevissimo, oblique rotundato, postico obtuso, rotundato; margine superiore concavo, inferiore convexo, parallelo; cardine angusto, brevi, fossula cardinali parva, perobliqua, plana; sinu pallii magno, trigono, inferne valde declivi.

February 28, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Description of a new Volute, from New Caledonia.**
   By Lovell Reeve.

   (Mollusca, Pl. XXVI.)

   **Voluta Deshayesii.** *Vol. testa ovato-oblonga, basin versus contracta et retrorsum contorta, pallide carneo-alba, fasciis duabus latissimis, miniaceo-roseo marmoratis cingulata, epidermide tenui, fugacea induta; spira breviuscula, maculis grandi-bus, vivide miniaceo-roseis ornata, apice perampliter obtuse papillata, flavescente; anfractibus superne leviter concavis, ultimo sappissime angulato, ad angulum tuberculato, tuberculis subdescedentibus; columella quadruplicata, plicis fortissimis, subquadratis, transversis; apertura subcontracta, aurantiocarneola.*

   Long. 3½ poll., lat. 1½ poll.

   **Hab.** New Caledonia.

   This delicately painted Volute, of which three specimens, in fine condition, containing portions of the animal dried within them, have just been received from New Caledonia, approaches nearest in colouring and general aspect to *V. aulica.* It differs from that species in being twisted and recurved at the base, and in having columellar plaits of a different typical character, more like those of *V. Hebixa* or *musica.* The general contour of the shell is, however, more like that of *V. vespertilio.* The colouring consists of two broad variously mottled vermilion red bands, with the base of the same colour, whilst the spire is painted with large very characteristic vermilion-rose spots of a deeper tone. The apex is largely papillary, not flesh-tinted as in *V. aulica,* but pale yellow. The columella and interior of the aperture are of a warm orange carnelian hue.

   Being honoured at this time with a visit from M. Deshayes, I have the pleasure of distinguishing this beautiful Volute with his name.

(Aves, Pl. LXII.)

Fam. Merulidæ, Vigors.
Subfam. Myiotherina, Swains.

Genus Pnoëpyga, Hodgs.
Syn. Microura, Gould (nee Ehrenb).

1. Pnoëpyga longicaudata, nobis.

Colour of the upper parts deep olive-brown, the feathers slightly margined with black, and having blackish shafts; wings and tail inclined to ferruginous brown; upper tail-coverts long; throat whitish; breast and sides of abdomen pale dusky ferruginous, the feathers having pale centres and blackish margins; centre of lower part of breast and abdomen white; flanks the same as the back; vent and under tail-coverts dark ferruginous; bill dark horn colour, legs paler.

Length, 4½ inches; of wing, 2; the tail is rounded, the central feathers being 2¼ inches long, and the outer 1½ inch; bill to front, through the feathers, ¼ inch; to gape, ⅜; tarse, ⅛.

Hab. N. India.

Genus Brachypteryx, Horsfield, p. s. d.

2. Brachypteryx nipalensis, Hodgson.

Male: colour above a greyish cyaneous, or light greyish blue, as are also the cheeks, sides of breast and flanks, and paling to greyish white on the centre of the breast; throat, middle of belly, vent and under tail-coverts, streak over but not extending beyond the eye, white. Female: ferruginous brown above, paling on the sides; throat, breast, belly, under tail-coverts and streak over the eye, whitish, the feathers on the breast and sides fringed with brown; bill dark horn colour, legs paler.

Length, 4½ inches; of wing, 2½; tail, 1½; bill to gape, ⅜; tarse, ⅛.


This species is allied to Br. cruralis, Blyth, but may readily be distinguished by its smaller size, shorter tail, paler colour of the upper parts, and by its white throat and belly.


Gen. Char. "Bill shorter than the head, straight, slender, higher than broad, the ridge of the upper mandible tolerably acute, and its tip very slightly emarginated; inferior gonys ascending for the terminal half, imparting to the bill the appearance of a tendency to bend
NEMURA HODGSONI. Moore.
Male & Female.
upward: naral apertures in the form of elongate-oval fissures in the lateral nasal membrane, and partially impended by the short semi-reflected frontal feathers; gape armed with a few small setae; wings and tail rounded, the 4th, 5th and 6th primaries equal and longest; legs and toes slender, the tarsi smooth, unscutellate, and very long, as is also the middle toe; claws but moderately curved, and of little more than mean length; plumage light, soft and full, having a scale-like appearance on the crown, breast and belly.”

3. **Callene frontale**, Blyth.


*Brachypteryx scapularis*, Horsf. MS.

*Hab.* Nepal (No. 950, Hodys. Catal.).

*Spec. Char.* “Plumage dark fusco-cyanous, the rump dusky; flanks somewhat ashy, and middle of the belly slightly grey-edged; lores and immediately above the beak blackish, contrasting with a bright cerulean forehead; bend of the wing also cerulean, but less bright; and winglet, primaries and their coverts, secondaries and tertials, dark olive-brown; a white spot on the under surface of the wing, beneath the winglet; bill black; legs dusky brown.

“Length, 7 inches; of wing from bend, 3½; middle tail-feathers, 3½, the outermost 3/4 of an inch shorter; bill to forehead nearly 5, to gape ½; tarse, 1½; middle toe and claw, 1⅜; hind toe and claw, ⅜; the last, ¾.

“This bird is reported to be a fine songster, and heard chiefly in the evening.”—Blyth.

**Subfam. Timalina.**

**Genus Trichastoma**, Blyth.

*Syn. Malacocinela*, Blyth.

*Gen. Char.* “Bill as long as the head, rather stout, high, much compressed, the tip of the upper mandible pretty strongly hooked, but indistinctly emarginated, and its ridge obtusely angulated towards the base, the remainder scarcely angulated; gape but little widened, and feebly bristled; nostrils large and subovate, with oval aperture to the front, a little removed from the base of the bill; tarse of mean length and strength, as long as the middle toe with its claw; the claws suited for perching, compressed, and moderately curved, that of the hind toe rather large; wings moderate, with the first primary reaching to about their middle, the second much shorter than the third, and the fourth longest; tail rather short, weak and even, except that its outermost feathers are a little shorter than the rest; plumage full and lax, the coronal feathers somewhat elongated and of a spatulate form.”


*Spec. Char.* "Colour above plain olive-brown, tinged with rufous on the rump and tail; the upper tail-coverts ferruginous brown, under parts paler; the throat and middle of the belly white; the ear-coverts, sides of the breast and flanks rufescent; the lower tail-coverts weak ferruginous; bill horn-colour, paler beneath.

"Length, 6 inches; of wing, 3; tail, 2½; bill to gape, ½; and tarse the same."—Blyth.

Mr. Blyth states *Arracan* to be the habitat of this bird. Specimens have lately been presented to the Company’s Museum by B. H. Hodgson, Esq., from Nepal, and by Capt. R. C. Tytler from Dacca.


*Genus Nemura*, Hodgson.

Syn. *Ianthia*, Blyth.

5. *Nemura Hodgsoni*, nobis. (Pl. LXII.)

*Male*: colour of the upper parts purplish blue, brightening to vivid ultramarine on the crown; forehead, lores and sides of head, wings and tail black, the two latter margined with blue externally; on the rump some of the feathers are tipped with white; upper tail-coverts blue; lower parts yellowish ferruginous; under wing-coverts, flanks and under tail-coverts white. *Female*: ferruginous brown, richer on the rump; wings and tail dusky, margined with ferruginous brown externally; lores, ear-coverts and under parts pale dusky ferruginous; under tail-coverts white; bill black; legs pale horn colour.

Length, 3⅓ths of an inch; wing, 3½; tail, 1½; bill to front, ¾; to gape, 31/8; tarse, ⅛ an inch.


*Genus Tarsiger*, Hodgson.


*Male*: above deep cyaneous; wings brown, margined with cyaneous and rufous on the shoulder, primaries also margined with rufous, secondaries with cyaneous; tail brown, margined with cyaneous; a white superciliary streak extending one inch and a half from the nares to the back of the neck; lores and cheeks black; beneath rufous;
centre of belly white. Female: olive-brown above; wings and tail brown, margined with rusty olive; superciliary streak not so clear as in the male; beneath pale dull rufous; centre of belly and shafts of the underside of tail white; bill black; legs horn colour.

Length, 5½ inches; of wing, 3½; tail, 2½; bill to gape, ½; tarse, 1½.

Hab. Nepal (No. 924, Hodgs. Catal.).

Subfam. Sylviana, Vigors.

Genus Prinia, Horsfield, p. s. d.

7. Prinia cinereocapilla, Hodgson.

Crown of the head grey, the shaft and margin of the feathers being darker; nareal and frontal plumes, a streak over and beyond the eye, and the whole under parts rufescent, brightest on the flanks and thighs; lores and upper part of ear-coverts greyish; nape, back, rump and wings bright rufous brown, the tips of the latter dusky; tail the same colour as the back, paler beneath, with a terminal dusky band and rufescent white tips; bill black; legs pale horn colour.

Length, 4½ inches; wing, 1½; tail, 2; bill to front, ½; to gape, ½; tarsus, ⅙; middle toe and claw, ⅔; hind ditto, ⅔.


Genus Suya, Hodgson.

8. Suya atrogularis, nobis.

Colour above dusky brown, in some specimens ashy brown; edge of wing at shoulder and under wing-coverts buff; primaries margined with buffish and secondaries with rufescent brown; a whitish streak extending from the base of the lower mandible to the end and under the ear-covert; chin, throat, side of neck, breast and centre of abdomen black, the feathers of the two latter broadly centred with white; flanks and sides of abdomen mixed grey, brown and rufescent; vent buff; thighs buffy rufous; tail paler than the back, and has no perceptible terminal band; bill horn colour, feet paler.

Length, 6½ inches, including the tail; wings, from 1½ to 2 inches in some specimens; central feathers of tail from 3½ to 4, its outermost being only 1 inch; bill to gape, ⅔; to front, ½; height from chin to front, ⅔; width at chin, ⅔; tarsi, ⅔.


A single specimen of this beautiful bird has been in the Museum of the East India Company for a number of years, collected in Darjeeling by F. T. Pearson, Esq.; and B. H. Hodgson, Esq., has brought home several examples from Nepal.

Genus Drymoica, Swains. p. s. d.


Above rufous brown; wings dusky brown, the primaries exteriorly and secondaries interiorly and exteriorly margined with bright rufous
brown; tail rufous brown, paler beneath, and distinctly rayed, has a terminal dusky band, the tips being pale but not white; the whole under parts rufescent, as in Prinia socialis, Sykes; bill dusky horn colour, paler below at base; legs pale horn colour.

Length, 4½ to 5 inches; wing, 1¾; tail varying from 2½ to 3; bill to front, 4; to gape, 7; tarsi, ½; middle toe and claw, 8; hind ditto, 7/2.


3. NOTICE OF THE SPECIES OF THE GENUS ORTHOTOMUS OF HORSFIELD, WITH DESCRIPTIONS OF A NEW SPECIES, AND OF THOSE HITHERTO KNOWN. BY FREDERIC MOORE, ASSIST. MUS. EAST INDIA COMPANY.

Fam. Sylviade, Vigors.
Subfam. Sylviana, Vigors.
Genus Orthotomus, Horsfield.

1. Orthotomus sepium, Horsfield.
The Chiglet Creeper, Lath.
Chiglet of the Javanese, Horsf.
Hab. Java.
O. sepium.—The forehead, lores, over the eyes and ear-coverts, ear-coverts themselves, base of lower mandible and chin ferruginous, palest on the sides and chin; top of head, back and tail brownish olive, having a greenish tinge; wings dusky, broadly margined with brownish olive; throat and breast ashy black, the rest of the under parts yellowish; tail with a terminal dusky band, tipped with yellowish; thighs ferruginous; bill brownish, paler below; legs pale.
Length, 4½ inches; of wing, 1¾; tail, 1¾; bill to gape, 7/12; tarsus, 3/4.
The above description is taken from Dr. Horsfield's typical specimens, contained in the Mus. East India Company.

2. Orthotomus atrogularis, Temminck.
Hab. Malacca; Borneo.
O. atrogularis.—"The forehead, top of the head and occiput bright brownish red; the neck, the back and the wings of a grassy
green; the tail of a yellowish green, marked near the end and on the inner web with a narrow yellowish band; the chin, throat, breast and upper parts of flanks pure black, the sides of the abdomen yellowish; middle of the belly and abdomen white; bill and feet brown. No difference in the sexes.
“Length, 3\frac{1}{2} inches.”—Temm.

3. Orthotomus flavoviridis, nobis.
The forehead, crown, round the eyes, and occiput ferruginous; back and rump yellowish green; tail more dusky green; wings brown, broadly margined exteriorly throughout with yellowish green; chin, base of lower mandible, ear-coverts, centre of some of the feathers of the throat and breast white; lower part of the breast ash and white; centre of abdomen white; throat and fore part of the breast black, centred as above; flanks yellowish; extreme edge of shoulder of wing yellow; under part of tail yellowish, with a terminal dusky band, tipped with yellowish; thighs greenish ferruginous. Specimens labelled "male."
Length, 4 inches; of wing, 1\frac{3}{4}; tail, 1\frac{2}{3}; bill to gape, 3\frac{1}{5}; tarsus, 3\frac{7}{10}.

4. Orthotomus edela, Temminck.
Kachichi of the Malays of Sumatra, Raffles.
Hab. Malayan peninsula; Sumatra. In Mus. East India Company.
O. edela.—"The forehead, lores and crown ferruginous; the entire lower parts whitish, but the sides of the neck slightly variegated with clear ashy; back of neck, back, wing-coverts and tail greenish; the wings ashy, but bordered with greenish ferruginous; the tail is regularly of one colour; the bill and feet brownish."—Temm.
Length, 4\frac{1}{4} inches; of wing, 1\frac{3}{4}; tail, 1\frac{1}{2}; bill to gape, 3\frac{3}{5}; tarsus, 5\frac{4}{8}.

5. Orthotomus ruficeps, Lesson.
Hab. Malacca; Borneo.
O. ruficeps.—The forehead, crown, occiput, lores and upper part of ear-coverts bright ferruginous; the chin, base of lower mandible, lower part of ear-coverts and the rest of the under parts silky white;
back, rump and wings deep ash; tail bright ferruginous, at base ashy, and with no terminal band; thighs ferruginous; bill yellowish brown, pale below; legs pale.

Length, $4\frac{1}{2}$ inches; wing, 2; tail, $1\frac{3}{4}$; bill to gape, $\frac{3}{4}$; tarsus, $\frac{8}{10}$.

The above description is from a specimen in the East India Company’s Museum. This species may readily be distinguished by the bright ferruginous colour of the head, the tail also being of the same colour, and by the bill being considerably longer and stouter (though strictly typical) than in any of the other known species.

6. Orthotomus cineraceus, Blyth.


Orthotomus sepium, Lafres. Mag. de Zool. 1836, t. 51 (nec Horsf. v. Raffles).

Hab. Malacca.

O. cineraceus.—"Upper parts pure ash-grey, without any tinge of green; forehead and sides of the head light ferruginous, palest on the cheeks, and there is a slight tinge of the same upon the chin; crown tinged with olive-brown; lower parts white, passing to light ash on the sides of the breast; tail somewhat brownish, with terminal dusky band, and whitish extreme tips to its outer feathers; tibial plumes rust-coloured; the tarsi and toes red-brown; bill dusky above, pale beneath.

"Length about $4\frac{1}{2}$ inches; of wing, $1\frac{8}{10}$; tail, $1\frac{5}{8}$; bill to gape, $\frac{3}{4}$; tarse, $\frac{8}{10}$."—Blyth.

A specimen in the East India Company’s Museum, from Malacca, has the centre of the throat and the whole of the breast and flanks lightish ash, paling to silky white on the centre of the belly; the under tail-coverts are also white; wings brown, the primaries margined exteriorly with pale dusky ferruginous, the secondaries with ashy olive; extreme edge of wing, under spurious wing-coverts and exterior margin of the latter ferruginous white, contrasting with the ash on the breast; under wing-coverts white. The wing and tarsus are both an eighth of an inch longer. Other characters as in the description above.

7. Orthotomus longirostris, Swainson.


Hab. S.W. Australia (Swains.). Malacca?

O. longirostris.—"Cinereous; sides of the body beneath cinereous, the middle white; head, chin and thighs ferruginous; throat black; tail brownish, graduated, the latter with dusky black ends, tipped with whitish; bill and legs pale.

"Length, $4\frac{1}{2}$ inches; wing, $2\frac{1}{10}$; tail, beyond 1; base, $1\frac{4}{10}$; bill to gape, $\frac{8}{10}$; tarsus, $\frac{9}{10}$."—Swains.
This species differs from *O. cineraceus* in having a black throat, and in the wing being three-tenths of an inch longer, the tarsus also being longer by a quarter of an inch. Mr. Swainson has given S.W. Australia as the habitat of this species, which must evidently be an error.


**Syn.** *Orthotomus cucullatus*, Temm. Pl. Col. 599. f. 3 (1836).


**Hab.** Java; Sumatra.

*O. cucullatus.*—"Top of the head bright ferruginous; neck, cheeks, and the sides of the breast of a pure ash; the neck in front, the breast, and the middle of the belly are pure white; the sides, the thighs and the abdomen of a citron-yellow; back and wings of a greenish tint, the quills and tail margined with greenish; upper mandible brown, the lower as well as the feet yellowish."—Temminck.


*Orthotomus sphenurus*, Swains. 21 Cent. p. 343 (1838).


**The Indian Tailor Bird.**

*Phutki*, of the Hindoos, Jerdon.

*Tuntuni*, of the Bengalese, Hamilton, Blyth.

*Patia*, or "Leaf Bird," Nepal, Hodgson.

**Hab.** India generally; Ceylon; Burmese countries; Malayan peninsula?

This species is too well known to require further description.

"The Tailor Bird is tolerably common in most wooded districts, and universally spread, frequenting cultivated ground, especially gardens, groves of trees, and is also found in high jungle, in the more open spaces. It lives in pairs or in small flocks, incessantly hopping about the branches of trees and shrubs, peas and other vegetables, with a

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loud reiterated note, and picking various insects (chiefly ants and small larvae) off the bark and leaves, and not unfrequently seeking them on the ground. It has the habit of frequently jerking up its tail while feeding or hopping about, and at times (especially when calling) it has the power of raising the feathers on the lower part of the throat, and displaying on either side a small black stripe. This has been noted by no one except Lieut. Hutton, who states, ‘it is only seen when the bird is in motion, and wholly disappears when in a state of rest.’ It has various notes, one of which sounds like twee, twee, twee, as mentioned by Col. Sykes, and another which is generally used when alarmed or angry, and sounds like chick, chick, chick, chick. It is a familiar bird, and ventures close to houses, but when observed becomes wary.”—Jerdon.

Dr. Nicholson says, “It has a loud, short, and not unmelodious song; its general cry being ‘wheet, wheet, wheet,’ often repeated; but its alarm cry is like ‘cheertah, cheertah, cheertah.’”

The following are a few observations on the structure of two specimens of the nest of the Tailor Bird, found in the garden belonging to Capt. Hearsey, by Lieut. Hutton: “The first was neatly formed of raw cotton and bits of cotton threads, woven strongly together, thickly lined with horse-hair, and supported between two leaves on a twig of the Amaltás tree (Cassia fistula). These two leaves were first placed longitudinally upon each other, and stitched in that position from the points to rather more than halfway up the sides with a strong thread spun from the raw cotton by the bird, leaving the entrance to the nest at the point where they join the branch of the tree. Both of these leaves were of course green and living. Subsequently, however, they were blown down by a high wind, and being now withered, the nest appears enclosed between two dead leaves. The second specimen was at the end of a branch of the Bhela (Seme-carpus anacardium), about two feet from the ground, and constructed of the same materials as the above, viz. raw cotton, cotton threads, also a little flax, and lined with horse-hair alone; the leaves were stitched together partly with thread prepared by the bird, and partly with spun thread; and so well concealed was it, that even after Capt. Hearsey had discovered it (by accident) he could scarcely find it again to show to me. In it were found an egg and two young birds nearly fledged. These I placed, with the nest, in a trap-cage, and thus succeeded in capturing both of the old birds. The young birds are similar in colours to the adults, except that they are paler and the top of the head cinereous with a faint rufous tinge; bill yellowish. The eggs are white, spotted, chiefly at the larger end, with tawny spots.”

Further notices of the habits and nest of this curious bird are given by the following authors, at the places above referred to, viz. Hodgson, Sykes, Blyth, Layard, Nicholson, &c.
4. A Monograph of Cerithidea, a genus of Mollusca, with Descriptions of several New Species, from the Collection of Hugh Cuming, Esq.: to which are added, Descriptions of Two New Species of Colina, and One of Donax. By Arthur Adams, F.L.S.

Genus Cerithidea, Swainson.

1. Cerithidea decollata, Linnaeus.

2. Cerithidea obtusa, Lamarck.

3. Cerithidea varicosa, Sowerby.


   Cerithium pulchrum, C. B. Adams, Shells of Panama, p. 156.


7. Cerithidea Sinensis, Philippi.

8. Cerithidea Charbonnieri, Petit.


Subgenus Pirenella, Gray.

11. **Cerithidea (Pirenella) bicarinata**, Gray.  

12. **Cerithidea (Pirenella) conica**, Blainville.  


15. **Cerithidea balteata**, A. Adams. *C. testa turrito-conica, apice truncata, tenui, rufo-fusca, linea spirali, albida ad medios anfractuum et altera ad suturas, ornata; anfractibus convexis, variicibus nullis, costis longitudinalibus, angustis, numerosis insculptis, transversim subsulcatis, ultimo rotundato, basi sulcato; apertura subquadrita, antice canaliculata; labro expanso, margine albo, reflexo, antice producto, auriculato.*  
*Hab.* Island of Ticao, marshy places, salt water. *Mus.* Cuming.  
This is a handsome shell, of a rich red-brown colour, ornamented with two yellowish-white bands, the hinder one interrupted and less distinct.

16. **Cerithidea similis**, A. Adams. *C. testa turrito-conica, apice obtusa, truncata, solidiuscula, rufescente, albido variegata; anfractibus planiusculis, varice unico ad anfractum ultimum, costis permultis, confertis, nodulosis, circula moniliforme ad suturas instructis; anfractu ultimo rotundato, basi sulcato; apertura suborbiculari, antice canaliculata; labro expanso, extus incrassato, antice producto ac auriculato.*  
Of a pale fulvous-brown colour, with flat decussated whorls, and a whitish moniliform band immediately below the sutures.

17. **Cerithidea crassilabrum**, A. Adams. *C. testa elongato-conica, apice cornea, vix truncata, solida, cinerea; anfractibus convexis, variicibus nullis, ad suturas circula filiforme instructis, costellis albidis, confertis; anfractu ultimo rotundato, basi sulcato; apertura quadrato-orbiculari, basi subefferusa; labro expanso, valde incrassato, reflexo, arcuato.*  
This species is remarkable for the great thickness of the outer lip, and the thread-like belt at the sutures; the outer lip at the fore part is marked with two obscure brown spots; in some smaller varieties the ribs are more strongly developed, and the interstices between them are horn-coloured, and the upper whorls corneous.
18. Cerithidea albivaricosa, A. Adams. *C. testa turrito-conica, apice acuta, solida, fusco-grisea, linea spirali, luteola, ad medios anfractuum ornata, albivaricosa; anfractibus convexiusculis, varicibus numerosis, distantibus, alternantibus instructis, longitudinaliter costatis, costis nodulosis, transversim sulcatis; anfractu ultimo rotundato, basi spiraliter sulcato; apertura suborbiculari, antice sinuata; labro expanso, margine acuto, subrefexo.


This species is easily recognized, on account of the conspicuous white varices of the whorls.

19. Cerithidea raricostata, A. Adams. *C. testa turrito-conica, apice truncata, tenui, rubro-fusca, linea albo-lutea spirali ad medios anfractuum ornata; anfractibus convexus, suturis impressis, varicibus nullis, costis longitudinalibus distantibus, interstitiis læribus, subcostellatis; anfractu ultimo ad basin funiculo cincto, infra funiculum subplano et sulcato; apertura suborbiculari; labro margine acuto, expanso ac reflexo.

*Hab.* Catbalonga, island of Samaar. Mus. Cuming.

The ribs in this species are few and wide apart, and the interstices are nearly smooth; the whorls are very convex, and the shell is thin and semipellucid.

20. Cerithidea Fortunei, A. Adams. *C. testa turrito-conica, apice acuta, solida, olivacea, linea spirali fusca ad medios anfractuum; anfractibus convexis, ad suturas marginatis, variibus obsoletis nonnullis, costis permultis, elevatiusculis, equallibus, arcuatissculptis, transversim substriatis; anfractu ultimo rotundato, basi spiraliter sulcato; apertura suborbiculari, antice effusa; labro expanso, valde sinuato vix reflexo.

*Hab.* China (Mr. Fortune). Mus. Cuming.

This is a solid and somewhat smooth species, with numerous ribs, which are obsolete on the last whorl.

21. Cerithidea cornea, A. Adams. *C. testa turrito-conica, apice truncata, tenui, cornea, fusca; anfractibus planiusculis, varicibus nullis, costis longitudinalibus, arcuatissculptis; anfractu ultimo ad peripheriam angulato, basi subplano, sulcato; apertura subquadrata, antice sinuata; labro expanso, margine acuto, reflexo.


This species is more fluviatile than many of the others, and the texture of the shell is thin and horny; in general appearance it most resembles *C. Charbonnieri* of Petit, but the last whorl is not acutely carinated.

22. Cerithidea Rhizophorarum, A. Adams. *C. testa turrito-conica, apice truncata, subsolida, cinerea; anfractibus superne pallide flavidis, planis, varice unico, subobsoleto-ad
anfractum ultimum, costellis arcuatis, nodulosis, permultis ornatis, transversim sulcatis; anfractu ultimo vix angulato; apertura quadrato-orticulare, basi sinuata; labro breviter reflexo et arcuato.

This species inhabits estuaries near the sea, and is found among the roots of the Rhizophora, or mangrove; it is a dull, solid, ashy-brown shell, with numerous corrugated ribs.

23. Cerithidea (Pirenella) Layardi, A. Adams. C. testa turrita, apice acuta, solida, castaneo-fusca, albo-azonata; anfractibus planiusculis, triseriati granosiss, cingula moniliformis ad suturas instructis; anfractus ultimo ad peripheriam subangulato et bicarinate; apertura ovata, antice subcanaliculata; labro tenui, in medio sinuato.
This is a very pretty species, somewhat resembling the P. mammillata of Philippi, but the character of the sculpture of the whorls is entirely different.

24. Cerithidea (Pirenella) pauxilla, A. Adams. C. testa parva, turrito-conica, apice acuta, nitida, straminea; anfractibus planiusculis, varice unico ad anfractum ultimum, suturis canaliculatis, anfractibus triseriati granosiss; apertura quadrato-orticulare, antice sinuata; labro acute, expanso, margine sinuoso.
This is a small yellowish-brown shining species, with deeply-channeled sutures, and with the whorls ornamented with three series of rather acute tubercles.

25. Colina pinguis, A. Adams. C. testa fusiformi, in medio ventricosa, flavido-fusca, transversim sulcata, spira attenuata, apice mucronata; anfractibus suprannis laevibus, medii serie tuberculorum instructis, ultimo levigato, superne nodoso-pli cato; apertura ovali, antice canaliculata, canali brevi; labro expanso, margine subreflexo, fusco articulato.
This is a very singular shell, with a series of large tubercles on the middle gibbose whorls, and with the last whorl smooth, and exhibiting all the characters of the genus Colina.

26. Colina costata, A. Adams. C. testa fusiformi, in medio gibbosula, flavescente, rufo sparsim maculata, transversim lirata, longitudinaliter costata, costis crassis, aequalibus, interstitiis lineis transversis, elevatis insculptis; anfractu ultimo ecostato, cingulis granulosis, transversis ornato, antice angulato, basi sulcato; apertura ovali, antice canaliculata, canali brevi, aperto; labro expanso, margine incrassato et reflexo.
This species differs from the others of the genus in the longitudinal ribs of the whorls, and in the elevated granular transverse line.
27. **Donax Keyii**, A. Adams. *D. testa trigoni, inaequilaterali, latere antico abrupte truncato, epidermide fusca, tenui obtecta, oblique valde costata, costis aequalibus, interstitiis concinme cancellati; margine ventrali denticulato, arcuato, postice subsinuato; intus, ad laterum anticum, macula oblonga, violacea ornata.*

_Hab._ Hippopotamus Point, Quelimane River, East Africa (Gilbert Key, Esq., R.N.).

A very pretty and curious species, characterized by the strongly-marked oblique ribs with the interstices cancelled, and with a violet spot in the interior of the valves.

March 14, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Observations on the Genus Paludomus of Swainson, with Descriptions of Several New Species, and the Description of a New Species of Anculotus.** By Edgar L. Layard, F.Z.S., C.M.E.S. etc. etc.

A cursory survey of the genus _Paludomus_, which Swainson many years ago separated from _Melania_, at once satisfied me that several genera or subgenera, differing in structure and habits, were united together under one name by Mr. Reeve, in his monograph on the genus in the 'Conchologia Iconica,' where he describes the characters of the genus as follows:—“Animal fluvatile, with a horny sub-triangularly-ovate concentrically-striated operculum.”

Had Mr. Reeve been furnished with the operculum and a correct account of the habits of each species, he never would have left the genus as it now stands. I was not aware that Dr. Gray had separated one division from it, until so informed by him when I introduced the subject to the notice of the Zoological Society on a former evening; and I rejoice to find that my observations on the Mollusca in their natural state confirm the views to which that learned zoologist has arrived, from the structure of the opercula.

This induced me carefully to examine the whole group; and the ample collection of Mr. Cuming, ever open to the investigator, my own cabinet, particularly rich in this family, and my memoranda taken in Ceylon, have furnished the results here presented to the Society.

I propose to separate the genus into four divisions, founded upon the structure of the operculum.

The first I shall designate _Paludomus_, as, with the addition of the position of the nucleus in the operculum, the characters, as given
by Reeve, sufficiently describe that organ, and from its partiality to sluggish waters (two species being found in the marshy borders of tanks or artificial lakes), it better suits the name than any of the other divisions. A note of interrogation after a species implies that I have not seen the operculum, but from the form I consider it to belong to the division in which it is placed.

Genus 1. Paludomus, Swains.
Animal inhabiting gently-running or still water. Operculum horny, subtriangularly ovate, with the apex superior and slightly inclined; concentrically striate; nucleus subcentral, sinistral.

P. laevis, Layard.  P. decussatus, Reeve?
P. palustris, Layard.  P. Stephanus, Benson?
P. chilinoides, Reeve.  P. conicus, Gray.
P. phasianinus, Reeve.  P. bifasciatus, Reeve.
P. acutus, Reeve.  P. spiralis, Reeve.
P. bicinctus, Reeve.  P. pictus, Reeve?
P. constictus, Reeve.  P. bacula, Reeve?
P. nigricans, Reeve.  P. abbreviatus, Reeve?
P. paludinoides, Reeve.  P. clavatus, Reeve?
P. punctatus, Reeve.  P. Maurus, Reeve?
P. globulosus, Reeve?  P. rudis, Reeve?

Genus 2. Ganga*, Layard.
Animal inhabiting gently-running water. Operculum horny, subtriangularly ovate; apex superior, slightly inclined, concentrically striate; nucleus subcentral, dextral.

G. dilatata, Reeve.  G. neritoides, Reeve?  G. olivacea, Reeve?

Genus 3. Tanalia, Gray.
Animal fluviatile, delighting in the most rapid mountain torrents. Operculum horny, subtriangularly ovate; apex lateral, lamellated; nucleus lateral, dextral.

T. loricata, Reeve.  T. Gardneri, Reeve.
T. crinosens, Reeve.  T. Tennentii, Reeve.
T. area, Reeve.  T. Reevei, Layard.
T. Layardi, Reeve.  T. similis, Layard.
T. undata, Reeve.  T. violacea, Layard.
T. funiculata, Reeve.

Genus 4. Philopotamis, Layard.
Animal fluviatile, amphibious, delighting in rocky torrents. Operculum horny, subtriangularly ovate; apex superior, paucispiral; nucleus sub-basal, dextral.

Ph. sulcatus, Reeve.  Ph. Thwaitesii, Lay.  Ph. regalis, Lay.

* Cingalese name for a river.
One characteristic habit, separating the whole of these species, as far as I can ascertain, from *Melania*, is that they are constantly found adhering to stones, or the submerged roots of trees and stems of aquatic plants, which the *Melanias* never are; neither do they burrow in sand, as do the *Melanias*, though they often resort to a sandy locality, perhaps for the purpose of breeding. The habit in *Ph. sulcatus* of crawling several feet out of the water on the damp grass is remarkable.

A few remarks on the various species in detail may prove not unacceptable.

**Paludomus chilinoides**, Reeve.

This is the commonest species of the whole tribe. It is found in gently-running water generally, but often in paddy fields and other marshy grounds to which these running waters have access.

The animal is blackish-mottled, forehead produced into an obtuse point, slightly indented in the centre and fringed with red dots; tentacula two, acuminate; eyes two, sessile, situated about one-fifth of the distance up the tentacles.

I have taken the operculum of this species as the type of the family; it therefore needs no description.

**Paludomus levis**, Layard.

Shell oblong-ovate; axis 11 lines, diam. 7 lines; spire acute, exserted, moderately long; whorls rounded, not depressed round the upper part, smooth. Colour olive-yellow, the lower whorls seldom marked, but the upper always spotted with one or two rows of arrow-headed dots; apex bluish; aperture white.

Operculum as in *Pal. chilinoides*.

_Hab._ Ceylon, in slow-running streams on the northern side of the mountain zone extending into the flat country beyond Anarajahpoora. I also obtained a few in a paddy field in the south of the island, near the village of Heneratgodde. _Mus._ Cuming et Layard.

I think this may prove to be but a variety of *Pal. chilinoides*, although the experienced eye of Mr. Cuming at once separated it from that species. It is found in the same localities, and only differs from it in wanting the depression round the upper part of the whorls and in the colouring; the mollusk is similar.

**Paludomus palustris**, Layard.

Shell ovate, thin; axis 10 lines, diam. 6 lines; spire exserted, long; whorls rounded, rather flat, spirally closely grooved with minute granular striae (visible under the lens). Colour of adult shell *a rich yellow spotted with dark brown, the markings frequently running into wavy lines; apex bluish; aperture white.*

* In young shells the ground colour is almost hidden by the dark markings, and the aperture is found to be spirally marked with thin lines of the same colour.
Operculum nearly oval, the apex slightly inclined to the left; concentric nucleus subcentral, sinistral.  

*Hab.* The grassy margins of a tank at Anarajahpoora. Mus. Cuming et Layard.

**Paludomus nigricans**, Reeve.  
Operculum as in *Pal. chilinoides*, Reeve.  
*Hab.* Balcaddua Pass, mountain torrent, affecting the little pools and not found in the rapids.

**Paludomus constrictus**, Reeve.  
Operculum as in *Pal. chilinoides*, Reeve, but with the apex very much inclined to the left.  
*Hab.* Kadaganava Pass, mountain streams. I have not taken it in situ. Mus. Cuming et Layard.

**Paludomus bicinctus**, Reeve.  
Operculum as in *Pal. chilinoides*, Reeve.  

**Paludomus phasianinus**, Reeve.  
Operculum as in *Pal. chilinoides*, Reeve.  
I cannot help thinking that this is but a geographical variety of *Pal. chilinoides*, of which the Ceylon race will be the connecting link. Seychelles type. Mus. Cuming. Ceylon var. Mus. Layard.

**Paludomus paludinoides**, Reeve.  
Operculum as in *Pal. chilinoides*, Reeve.  

**Paludomus decussatus**, Reeve.  
Operculum as in *Pal. chilinoides*.  

**Paludomus parvus**, Layard.  
Shell ovate; axis 6 lines, diam. 4 lines; spire exserted, moderately long; whorls slightly rounded, smooth. Colour dark olive-yellow, more or less marked with fine spiral brown lines; aperture white.  
Operculum as in *P. chilinoides*, Reeve.  

**Paludomus globulosus**, Reeve.  
I am not quite satisfied that the opercula which I received with the specimens of this shell presented to me, are really the proper opercula of the species, but it probably belongs to this group.  
I was told that the shells came from Rambodde Pass, between Newera Elia and Kandy, but never saw it in situ, as I did not visit that locality. Mus. Layard et Cuming.
**Paludomus spiralis**, Reeve,
I include in this group, from its resemblance to my *Pal. palustris*. The only specimens I ever saw are in Mr. Cuming’s cabinet.

**Paludomus dilatatus**, Reeve.
Operculum concentric; nucleus subcentral, dextral.
Hab. Ceylon, Rambodde Pass, mountain torrent. This species was given to me along with *Pal. globulosus*; I therefore know nothing of its habits.

**Tanalia loricata**, Reeve.
This species grows to its largest size in the Calloo ganga, above Ratnapoora, where it is found in the most rapid foaming currents adhering to rocks. It resorts to deep sandy pools and reaches at some seasons, but apparently will not exist in a river devoid of rocks and rapids. Most of the streams of the southern provinces answering to this description contain it; but I never met with it to the northward, where the rivers become more sluggish.
The mollusk is almost black.

**Tanalia crinascens**, Reeve.
I doubt this being more than a geographical variety of the preceding species; and not being aware that it had been separated from it, did not pay attention to the operculum, though it evidently belongs to this group. I have only received the species from one locality, Kadaganava Pass, between Colombo and Kandy; but have intermediate varieties, on which half the spines are solid, as in *loricata*, half capped and hollow, as in *crinascens*.

**Tanalia crinascens**, Reeve.
I doubt this being more than a geographical variety of the preceding species; and not being aware that it had been separated from it, did not pay attention to the operculum, though it evidently belongs to this group. I have only received the species from one locality, Kadaganava Pass, between Colombo and Kandy; but have intermediate varieties, on which half the spines are solid, as in *loricata*, half capped and hollow, as in *crinascens*.

**T. area**, Reeve. **T. Layardi, R.** **T. undata, R.**
I seek in vain for sufficient distinction in these species to separate them from *loricata*. Take a strongly-marked specimen of each, and the division appears an excellent one; place a hundred of each, and the gradations are imperceptible.
As far as my recollection serves me, there is nothing different in the animals; but as I was not aware of the separation of *area* and *Layardi*, I did not closely scrutinize them; however, of *undata* dozens passed in review with careful survey.
They are found with *loricata* and the pseudo-variety *crinascens* before mentioned; and the opercula are undistinguishable, save that those of *area* having a wider aperture to fill, are larger and not quite so angular. I look upon them as varieties of *loricata*.

**Tanalia Gardneri**, Reeve.
Operculum not distinguishable, except in size, from that of *loricata*. In very large specimens the angle is often very great, and is bent outward on the exterior side.
Hab. I found this species in a waterfall pool at Tambillichna, below Ratnapoora; also in the Calloo ganga, but only in the most rapid current, mixed with *loricata* and the next species.
Tanalia Tennentii, Reeve.

Operculum the same as in the preceding species, but, if anything, always more angular.

Hab. as in T. Gardneri.

Tanalia Reevei, Layard.

Shell oblong ovate; axis 1½ inch, diam. 1 in. 2 lines. Spire exserted, short. Whorls rounded, spirally cored with rather distant obtuse ridges, longitudinally striated with well-marked close-set striae, the great characteristic mark of the species. Aperture: outer lip edged with deep purple-brown, columellar lip white. Colour a dark yellow-brown, thickly marked with longitudinal, slanting, jet-brown wavy bands.

Hab. The Calloo ganga, Ratnapoora.

I have much pleasure in dedicating this beautiful species to the gentleman who has so extensively investigated this peculiar family.

Tanalia violacea, Layard.

Shell globose; axis 6 lines, diam. 5 lines. Spire very short, slightly exserted. Whorls rounded, ventricose, spirally grooved with close-set, fine, minutely decussated striae (in one variety the striae become ridges). Colour a dark bluish-brown, almost amounting to black, with darkish brown patches appearing in some specimens. Aperture deep violet inside; columella white, stained on the outside edge with dark brown.

Hab. A small mountain torrent in a dense forest between Gillymalle and Pallabaddoola, towards Adam's Peak, Ceylon.

Tanalia simillis, Layard.

Shell rather globose; axis 8 lines, diam. 6 lines. Spire short, exserted. Whorls rounded, ventricose, spirally grooved with close-set, fine, minutely decussated striae. Colour rich olive-yellow, profusely marked with longitudinal, wavy, dark lines, interrupted by four or five fine transverse bands of the same colour. Aperture: the dark markings of the shell show through, and are dimmed by a bluish haze; columellar lip white, stained on the outside edge with dark brown, which runs round the outer lip in a thin band.

Hab. A mountain torrent at Kandangama, near Ratnapoora.

Tanalia funiculata, Reeve.

I never could find any species which answered to Mr. Reeve's description of this shell, until Mr. Cuming kindly lent me the type specimen, when an hour's immersion in soap and water showed that the "jet-brown" was merely the accumulation of the freshwater algae (which always cover this sluggish family) and the red cabooky dust of "India's utmost isle." This cleaning revealed a bright yellow epidermis, variegated with dark brown wavy lines, and the very minutely striated structure of the shell; and the specimen immediately ranged itself with a series of a very variable shell, which I had in vain endeavoured to reconcile with any published description.
A more lengthened description of this species, which I shall still call *T. funiculata*, Reeve, may prove acceptable, and prevent others from experiencing the same difficulty which I have felt.

Shell oblong ovate; axis 13 lines, diam. 10. Spire exserted. Whorls rather depressed round the upper part, spirally cored with rather distant obtuse ridges placed at unequal distances, sometimes with a thread-like ridge between two larger ones, the whole minutely longitudinally striated. Colour a bright rich yellow, variegated with closely set, dark brown, broadish, zigzag lines. Interior whitish; exterior lip faintly marked all round with purplish-brown, with frequent dark brown spots; columellar lip white, with the exterior margin stained with a bright pale brown. This description is taken from the original type shell; in some examples the ridges are almost, if not quite, obsolete; the spire is hardly exserted, the zigzag lines lost, and the aperture almost pure white; one of these specimens measures, axis $9\frac{1}{2}$ lines, diam. 8 lines. In another, measuring, axis 17 lines, diam. 14 lines, the striae are much coarser, and some of the upper ridges present a decided indication of nodules! The outer lip is pretty deeply edged with dark brown, and the bright brown of the columellar lip, though still present, is soon changed into a deep rich hue.

The species is abundant in a mountain stream not far from Ratnapura, probably the very stream whence my lamented friend Dr. Gardner procured the type specimen, as it is crossed by the high road leading thither from Colombo; and, as I have had opportunity of witnessing, Dr. Gardner never failed to examine every stream he passed.

**Philopotamus sulcatus**, Reeve.

Operculum ovoid; apex slightly inclined, sinistral, paucispiral. Nucleus sub-basal, dextral. Mollusk black; forehead produced, as in *Paludomus chilinoides*; tentacles and eyes also the same.

_Hab._ Weyweldenia, a rocky rivulet. I found this species _loc. cit._, and I then remarked that vast numbers of them were crawling on the wet grass on the banks of the stream. I subsequently found it at Kandangamao and in the Calloo ganga.

**Philopotamus regalis**, Layard.

Shell oblong ovate; axis 1 inch, diam. 9 lines. Spire exserted, short. Whorls rounded, depressed at the upper part, spirally cored with close-set slight ridges, longitudinally minutely striated, and crowned with a single row of short, sharp, hollow, angular spines, closely set. Colour yellowish-olive, painted with wavy, dark brown longitudinal lines. Aperture pure white.

_Hab._ Stream in the Cnia Corle, Western province, Ceylon.

**Philopotamus Thwaitesii**, Layard.

Shell oblong ovate; axis 13 lines, diam. 9 lines. Spire exserted, short. Whorls almost carinated round the upper part, spirally
corded with unequal-sized, close, but irregularly set ridges, granulated or minutely striated. Colour yellowish-olive, painted more or less with wavy, dark brown longitudinal lines. Aperture pinkish-white, occasionally having the outer lip dotted with dark pink-brown marks.

_Hab._ Same as _P. sulcatus._

This is a rare shell, if really distinct from _sulcatus_, from which and from _regalis_ it may at once be distinguished by the shallowness and irregularity of the ridges.

_Anculotus carinatus_, Layard.

Shell somewhat globose; axis 5 lines, diam. 4 lines. Spire exerted, short. Whorls inflated, rather square, sharply keeled round the inferior angle, minutely longitudinally striated. Colour dull olive, marked faintly with two or three broad bands of dark rufous-brown, which are very apparent in the aperture; columellar lip white, stained with a light dash of the same rufous-brown on the exterior margin.


2. _Descriptions of some New Species of Lophocercideæ and Philinideæ, from the Cumingian Collection._ By Arthur Adams, F.L.S. etc.

1. _Lophocercus Krohnii_, A. Adams. _L. testa involuta, ovato-oblonga, postice gibbosa, ad apicem subangulata et plicata; spira occulta, alba, nitida, fragili, pellucida; apertura ovali, postice acuta, antice dilatata; labro postice soluto, angulo postico libero inflexo ac rotundato._

_Hab._ Sandwich Islands. Mus. Cuming.

This species is more gibbose posteriorly than _L. Sieboldii_; the region of the spire is plicate, and the shell is pellucid, white, and fragile.

2. _Lobiger pellucidus_, A. Adams. _L. testa ovali, subinvoluta, alba, fragili, pellucida, longitudinaliter substriata, spira occulta; apertura oblonga, ampla, postice producta et subangustata, antice dilatata; labio tenui, subreflexo; labro arcuato, margine acuto._

_Hab._ ——? Mus. Cuming.

This species differs from _L. Philippii_ in being white and nearly pellucid, and from _L. Cumingii_ in the very different form of the aperture, this not being produced into a narrow spout-like canal posteriorly.

3. _Philine orientalis_, A. Adams. _P. testa ovato-rotundata, subinvoluta, alba, solida, nitida, spira nulla; apertura magna, antice effusa; labro semicirculari, angulo postico producto et rotundato._

BUTERAUPIS CHLORONOTA. Sclater. (½ Nat. Size)
1. EUPHONIA HIRUNDINACEA. Linn.

2. EUPHONIA CONCINNA. Sel. W. M. H.
This species has somewhat the form of P. aperta, but wants the transverse impressed groove seen in that species; the plates of the gizzard, moreover, are produced at each end into long slender processes, somewhat similar to those of P. Schröeteri, the shell of which is very different in form.

March 28, 1854.

Dr. Gray, Vice-President, in the Chair.

Mr. Gould exhibited male and female specimens of a very rare English Duck, described in 1847 by Mr. Bartlett, under the name of Fuligula ferinoides. The specimens exhibited were lent to Mr. Gould by M. Van den Bergh, of Rotterdam. Mr. Gould mentioned, that only three instances of the occurrence of the bird in England are on record; one of the specimens is in the collection of J. H. Gurney, another in that of Mr. Doubleday, of Epping, and the third in the museum of the late Earl of Derby, at Liverpool.

The following papers were then read:—

1. Characters of some New or imperfectly-described Species of Tanagers.
   By Philip Lutley Sclater, M.A., F.Z.S.
   (Aves, Pl. LXIV. and LXV.)

I have been collecting Tanagers for some time, with the view of ultimately attempting a monograph of the family. But the forms in many of the genera are so closely allied, and the limits of the family itself at present so unsettled, that a larger collection of species, and a much greater familiarity with the subject-matter than I have yet had time to acquire, are requisite before such a monograph can be satisfactorily completed. Puzzling indeed to ornithologists would seem the question, “What is a Tanager?” as puzzling perhaps as to political economists Sir Robert Peel’s celebrated poser, “What is a pound?” My ideas on this point, that is, I mean, as to the position and extent of the family or subfamily of Tanagers, coincide, I believe, nearly with those of Mr. G. R. Gray.

ATanager I consider to be a dentirostral Finch—to be distinguished from other more typical Fringillidae by the presence of one or more teeth or notches in the upper mandible (sometimes further developing themselves into serrations, as in certain species of Euphonia and Tachyphonus), and the culmen being always more or less inflexed, never straight. The colours of the group are generally very brilliant. They feed on ripe fruit, some on insects, and perhaps in habits rather resemble Sylviidae than true Fringillidae.
With these views, I keep among the Tanagers the Pityli and Saltatores, excluded therefrom by certain modern systematists, and retained among the Fringillidae, while the whole of what may be termed the more typical portion of the group is removed far away to the neighbourhood of the Sylvicolina.

Now I think it will be impossible to settle these, and other families belonging to the South American Fauna, in a really satisfactory way, until we know much more than we do at present of the habits and customs of the animals of that vast continent. Unfortunately those who have hitherto written upon the ornithology of that country have in general had too little previous scientific knowledge of the subject. Not, of course, that this makes them less accurate observers of facts, but only less likely to hit upon the right facts to be observed. A person previously well acquainted with the varied forms of South American ornithology by study of the European collections, so as to know what points required looking up, would, I have little doubt, be in a much more favourable condition for observing these animals in their native haunts, and thereby solving many of those doubts which at present so perplex the student of natural history. As, however, we may perhaps have to wait some time before a determination of the question "What is a Tanager?" can be arrived at in this manner, I propose adopting as provisional limits for the family or subfamily, nearly those given by Mr. G. R. Gray in his 'Genera of Birds,' excluding only the genera Pipilo, Embernagra, and Emberizoides, which appear to me to go better with Zonotrichia and its allied forms. To show the arrangement I contemplate, I have formed a list* of the genera and species, which may perhaps be useful for collectors to mark off their duplicates or desiderata; though, as a mere catalogue of names, it is, of course, of no scientific value. Some of the many lately-formed genera now used, I may hereafter find occasion to consolidate, the principle of subdivision having been carried to great lengths in this as in other families.

My present list contains the names of 222 species, though I have no doubt that many more remain to be discovered. These are all believed to be real, not nominal species; indeed I have myself seen specimens of nearly the whole of them, and the ten or twelve I have not personally examined I believe rest on good authority. The names used are many of them taken from Bonaparte's 'Conspectus,' his "Note sur les Tangaras" in the 'Rev. et Mag. de Zool.' for 1851, the 'Museum Heineanum' of Cabanis, and my own papers in Sir William Jardine's 'Contributions.'

The Tanagers are essentially a South American family. Out of the whole 222 species, 193 are from the continent south of the Isthmus of Panama, and the rest mostly either from Central America or Southern Mexico. Three or four only are peculiar to certain of the West Indian islands, and three only, well-known members of the genus Pyranga, extend as summer migrants into the United States of North America. Through South America they range down to the Rio

de la Plata, but on the western coast I am not aware that they have been observed nearly so far south. M. d'Orbigny met with but one species* at all on the occidental slope of the Andes; Tschudi mentions but three or four as occurring in the vicinity of Lima, on the coast-region of Peru.

Subjoined are the specific characters of five species occurring in my list, of which accurate descriptions have not yet been published.


Long. tota 5'2, ale 3'0, caudae 2'0 poll. Angl.

Anis junior. Semitorque collari vix conspicuo.

Hab. In Nova Grenada.

Obs. Species Arrenoni semitorquato maxime affinis, sed hujus axillis olivaceis, illius latissime flavis.


Long. tota 7'0, ale 3'2, caudae 3'2.

Hab. In imp. Brasiliensi.

Obs. R. brazilio maxime affinis at dorso medio obscursius coccineo.

I should hardly have ventured to have separated this species from R. brazilius, from which it only differs, so far as I can make out, in the patch of darker colouring in the middle of the back; but as the Prince Charles Bonaparte has done so, and his MS. name has attained wide circulation on the MM. Verreaux's labels, I think it best to give a published description of the grounds of the alleged specific difference. However, M. Jules Verreaux,—a good authority,—considers the two species truly distinct, and has assured me, if I recollect right, that he has seen and shot them both frequently at Rio and Pernambuco.


* The Tanagra striata, Gm., in the ravines of Palca in Peru, 18° S.L. M. d'Orbigny attributes a wide range to this species, which he says occurs besides in the Banda Oriental, near Monte Video, at Buenos Ayres, near La Paz, and in the provinces of Yungas, Sicasica, Cochambamba, Valle Grande, and Chiquisaca in Bolivia. (Voy. p. 272.) But, quære, does he not confound with T. striata, Tschudi's T. frugilegus?

No. CCLXVI.—Proceedings of the Zoological Society.
Long. tota 8·8, alæ 4·6, caudæ 3·8.

Hab. In republ. Equatoriana.

Obs. Affinis B. eximia, sed major, dorso toto viridi nec uropygio ceruleo.

I have seen only one specimen of this species, which was received by the Frères Verreaux of Paris from Ecuador. It is closely allied to B. eximia, but is larger in all its dimensions, nearly equalling in size B. cucullata. Its distinguishing character is the uniform green back, whence I have named it chloronota. I have examined multitudes of B. eximia, and invariably found the uropygium blue.

4. Euphonia concinna, Sclater. (Pl. LXV. 2.)


E. supra nigro-violaee valde purpurascens; pileo summo flavo: infra gullete nigro-violaee; abdomen aurantio-flavo: cauda subitus immaculata nigra.

Long. tota 3·8, alæ 2·2, caudæ 1·4.

Hab. In Nova Grenada.

Obs. E. chloroticae similis, sed cauda subitus immaculata, fronte latius nigro, dignoscenda.

This bird is one of the group so closely affine to E. chlorotica, but may be distinguished from all of them (as E. melanura from E. violacea and its affines) by the absence of white markings on the exterior rectrices. The middle of the belly is also of a brighter orange tint, and the black front is broader than in E. chlorotica. A skin of this species, received from the MM. Verreaux, is labelled E. hirundinacea, Bp., and it is probably the species referred to by that name in the “Note sur les Tangaras,” Rev. et Mag. de Zool. 1851, p. 156. It is not however the true E. hirundinacea, Bp. Proc. Zool. Soc. 1837, p. 117; for on examination of the type of that species, which is now in the Derby Museum at Liverpool (labelled E. hirundinirostris !), I found it coequal with the bird described by me (Cont. to Orn. 1851, p. 86) as E. laniirostris, which again is not the true laniirostris of MM. de Lafresnaye and d’Orbigny, but a closely allied species, called in the Baron de Lafresnaye’s museum E. fortirostris. This must, of course, for the future bear the first proposed specific appellation hirundinacea, and will stand as follows:—

5. Euphonia hirundinacea, Bp. (Pl. LXV. 1.)


Long. tota 4·5, alæ 2·5, caudæ 1·5.

Hab. In Guatimala (Bp.); Chirique in Veragua (Kelllett in Mus. Brit.); Nova Grenada?

Obs. E. violaceae similis, sed ceno-nigra nec purpurascens: rostro robustiore.
April 11, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. Descriptions of two new species of Pucrasia.
   By John Gould, F.R.S. etc.

Mr. Gould having recently found in the rich stores of the East India Company, at their house in Leadenhall Street, a new species of Pheasant, of the same form but remarkably different from the Pucras Pheasant, took the earliest opportunity, with Dr. Horsfield’s permission, of bringing it under the notice of the Society. This fine bird, of which two specimens have been sent to the East India Company from Kafiristan by Dr. William Griffith, may be at once recognized by the uniform chestnut colouring of its mantle, breast and flanks, which has suggested the specific name of

Pucrasia castanea.

Forehead, cheeks, chin and lengthened portion of the crest dark shining green; hinder part of the head and the shorter portion of the crest dull sandy-buff, the two colours blending on the occiput; on each side of the neck an oval patch of white; lanceolate feathers of the neck, both above and below, breast and flanks, deep chestnut; feathers of the upper part of the back black, stained with chestnut on the outer web and margined with grey; lower part of the back and rump grey, fading into white on the edges, and with a narrow streak of blackish-brown down the shaft; wing-coverts dark brown, largely edged with greyish and ashy-brown; primaries brown on the inner margins, cream-white on the outer ones; feathers of the lower part of the abdomen brownish-black, edged with whitish; under tail-coverts chestnut, with a black line down the centre, and fringed with white at the tip; upper tail-coverts ashy-grey, with a broad mark of blackish-brown down the centre, but not extending to the tip; tail-feathers black, the central ones broadly margined with grey freckled with black, the remainder fringed with whitish at the tip; bill black; feet horny-brown.

- Total length, 23 inches; wing, 9½; tail, 10½; tarsi, 2½.
- Hab. Kafiristan.

Remark.—This species is altogether a stouter and larger bird than Pucrasia macrolopha.

Mr. Gould further remarked that, upon a careful examination and comparison of the Pheasants from Nepaul, which have usually been considered as identical with the P. macrolopha, with true examples of that species, he found them to differ so considerably, that he felt justified in characterizing the Nepaulese birds as distinct, under the name of
PUCRASIA NIPALENSIS.

Forehead, checks, chin and lengthened portion of the crest deep shining green; hinder part of the head and the shorter portion of the crest buff, with lighter shafts, the two colours blending on the occiput; on each side of the neck an oval spot of white; feathers of the sides and back of the neck and upper part of the back brownish-black, with a narrow mark of rich chestnut down the centre, and edged with rufous or whitish; feathers of the lower part of the back brownish-black, with white shafts and edges; wing-coverts brownish-black, with white shafts and margins; scapularies broadly margined with deep reddish-buff; primaries brown on the internal web, deep buff on the outer; tertiaries pale chestnut, mottled with black along the shaft and towards the edge, which is sandy-buff; throat, centre of the breast and abdomen rich chestnut; flank-feathers brownish-black with white shafts, bordered on each side by a very fine line of chestnut, and narrowly edged with grey, the markings becoming larger and paler behind the thigh; under tail-coverts lively chestnut, with an oval spot of white at the tip of each; centre tail-feathers rufous, stained with black near the shaft, the remainder black on the inner web and at the tip, the outer webs chestnut, which colour curves round into and occupies a portion of the internal web near the tip; all fringed with white at the tips; bill black; feet horny-brown.

Total length, 20½ inches; wing, 8½; tail, 9; tarsi, 2½.

Hab. Nepal and Bhotan.

Remark.—In size this bird is the smallest of the three species of the genus, but it is by far the most highly coloured and beautifully marked; the mantle, the sides of the neck and the flank-feathers are conspicuously striated with black, chestnut and grey; the same parts in the other species being sombre in comparison.

Specimens are contained in the collection at the British Museum, in that of the East India Company, and, Mr. Gould believes, in that of the Jardin des Plantes at Paris.

2. ON THE REPRODUCTION OF THE LOST PART OF AN OPERCULUM, AND ITS PROBABLE RESTORATION WHEN ENTIRELY DESTROYED. BY DR. J. E. GRAY, F.R.S., V.P.Z.S. ETC.

It is to be expected that the operculum of a Gasteropodous Mollusk may be sometimes broken or injured, but I have never hitherto been able to find any very distinct example of the kind, so as to study how the repair of the lost part would be effected. That such an occurrence would most probably be rare, is easily explained from its situation, as the operculum is protected by the last whorl of the spire of the shell when the animal is expanded, and by the mouth when it is contracted into the cavity of the shell.

I have lately met with a very distinct example in a specimen of Fusus in the British Museum collection. In this specimen the apical half of the operculum has been broken off (see fig. 1), and the lost part has been renewed by an irregular roundish process, nearly of
the size of the lost part, not quite as thick as the original portion, and formed of rather irregular horny plates; the smaller or first-formed portion being in the centre of the broken line, so that the restored part bears some similarity to the annular operculum of a *Paludina*. This restoration is exactly like that which would have taken place in a shell under similar circumstances, and is a further proof of the truth of the theory which I have long advocated, that the operculum is a rudimentary valve, and is homologous to the second valve of the Bivalve Mollusks.

In examining two specimens of *Pleurotoma babylonica*, preserved in spirits, with the opercula attached, I was much surprised to observe that the opercula of the two specimens were exceedingly different in structure and belonged to two distinct modifications of that valve, one (fig. 2) being subannular, with the nucleus apical, like the other species of the genus, and the other (fig. 3) annular, with the nucleus subcentral, somewhat like the operculum of *Paludina*.

The examination of the restoration of the lost half of the operculum of the *Fusus* before referred to has solved the difficulty, and I have no doubt that one of these animals had by some accident lost its operculum, and that it had gradually restored it; commencing, as in the case of the restored part of the operculum of the *Fusus*, by a small nucleus in the centre of the opercular mantle, on the back of the foot, and gradually adding new layers round the edge of it, until it formed an annular operculum nearly of the size of the original, but differing from it in shape, being less acute in front and nearly similar in form at the two ends. A more minute examination has strengthened this theory, for the operculum of this specimen is less regularly developed than is usual in the annular operculum of the kind, and is much thinner than the normal operculum of the genus, as is the case in both these particulars with the restored part of the operculum of the *Fusus*.

This change in the formation of the operculum when it is reproduced, is just what one might have expected. The animal, when it has to form its operculum at its birth, begins its formation at the tip, and increases its size, as the animal requires a larger operculum for its protection, by the addition of new layers to the outer edge of its larger and last-formed end: but when it has to reproduce this organ, the opercular mantle having reached a certain size, it proceeds
to cover its surface with a new protection in the most easy and rapid manner, and, commencing from a more or less central spot on the surface, enlarges the surface covered by adding new matter to the entire circumference of the first-formed part; it continues this process without waiting to make the operculum as thick and solid as the one which was lost, until it reaches the size of the original, moulding itself on the opercular mantle, and adapting its form to the form of the throat of the aperture of the shell which it has to close. The change of form in the front of the restored and mended operculum is caused by the parts being moulded on the existing opercular mantle—consequently they have not the narrow front part which is found in the normal form, caused by that part having been formed when the animal had this part of a small size; and as it increases in size the whole opercular mantle moves forward, leaving the small tip of the operculum free, and useless to the animal, and therefore not necessary to be reproduced when the operculum is re-formed in the adult age of the animal.

In the British Museum collection there is also a specimen of Cominia maculata with the operculum almost entirely reproduced, with the same alteration of the general form and position of the nucleus. These mended or reproduced opercula are always known from the normal operculum of the animal by being more or less irregularly formed and thinner in consistence.

April 25, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. Notes on the Habits of some Indian Birds. Part III.
   By Lieut. Burgess.

   Family Merulidæ.

   Subfamily Timalinæ.

   Genus Timalia.

   Timalia Malcolmi, Sykes. Large Babbler.

   This Large Babbler, though not generally so common, I believe, as Timalia grisea, I have shot in the Deccan in the districts near the city of Ahmednuggur. It is gregarious in its habits, flying about in flocks of eight or ten. It lives much on the ground, seeking its food, which consists of grasshoppers, beetles, black and white ants, and other insects, under large trees and hedgerows, scratching up and turning over the dead leaves with its strong claws. It also feeds on grain; the stomach of one which I examined contained bajoece
seeds and the remains of black ants, of another the remains of black and white ants. This fact, I think, accounts for the habit of these birds, of scratching amongst the decayed leaves round the trunks of large trees, where both the black and white ants are sure to be found; indeed it is almost impossible to find a large tree without a colony of the former round its roots. I am not certain whether the nest and eggs in the Museum of the Zoological Society, marked as those of the Greater Thimalia, belong to this bird, or to Timalia grisea; but as I procured two or three specimens of the Large Babbler and not one of T. grisea, I think that there is every probability that the nest and eggs belong to this species. I believe that birds of the genus Timalia breed twice during the year, as I have found their nests in the months of May and October. The nest brought to me in the month of October was found in a tuft of high grass in a boggy piece of ground; it contained four eggs of a uniform rich blue, $\frac{9}{10}$ in. in length by nearly $\frac{7}{10}$ in. in width. The number of eggs does not exceed four. The nest above-mentioned was composed of coarse matted grass at the bottom, and finer bents on the sides, lined also with bents of grass; it was loosely put together.

There are the nest and eggs of another species of Timalia in the Museum of the Zoological Society; but not having put the bird off her nest, I am unable positively to assert to what species they belong. I believe, from the smallness of the eggs, that they probably belong to Timalia hyperythra or T. hypoleuca; but this point requires further investigation.

Subfamily ORIOLINÆ.

Genus ORIOLUS.

Oriolus aureus, Gmel. Indian Oriole or Mango Bird.

This is common in the Deccan, frequenting banian trees and topes of mangoes, whence its name. These birds are particularly fond of the fruit of the banian, or Indian fig; the gizzard of one which I shot was full of the seeds of this small fig. The Indian Oriole begins to breed in the month of June. A pair of these birds built their nest on the small forked branches of a flowering tree in my garden at Ahmednuggur. The nest was composed of various fibrous substances, amongst which pieces of hemp appeared to predominate; with this two of the branches were bound together; some fragments of part of a letter which had been torn up and thrown away were inserted; the handwriting on the paper I easily recognized as that of a lady at the station. The nest, in its position, and in the manner in which it was attached to the boughs, was much like that figured by Mr. Yarrell in his work on British Birds as the nest of the Golden Oriole. The nest, I believe, contained four eggs, of a white ground with claret-coloured spots. This nest, with the eggs, and a pair of the old birds, are in the possession of the Zoological Society.
2. Notice of a New Indian Swallow.

(Aves, Pl. LXIII.)

The subject that I beg to lay before the Meeting this evening, is a new form belonging to the family Hirundinidae, lately collected in Nepal and presented to the Museum of the East India Company by B. H. Hodgson, Esq., which is allied to, but certainly distinct from, the genus Chelidon, and for which the following anagrammatic name is proposed.

Delichon (nov. gen.).

Gen. Char. Bill short, thick, robust, gape rather wide, the culmen rounded, the nostrils basal, lateral and rounded. Wings rather long, with the first quill the longest. Tail short, and margined or nearly even at the end. Tarsi longer than the middle toe, and clothed with plumes. Toes long and clothed with plumes, the inner shorter than the outer; the claws moderate and curved.

Type, D. Nipalensis, Hodgs. n. sp. (Pl. LXIII.)

Spec. Char. Top of the head, chin, cheeks, ear-coverts, nape, back, upper and under tail-coverts, fine glossy black; wings black, paler beneath, the upper coverts fringed with glossy black, the under coverts dusky black; tail black, fringed on the external webs with glossy black; a band of white across the rump; throat, breast, abdomen, lower part of flanks and vent white, upper part of flanks black; tarsi and toes covered with white plumes; claws pale flesh-colour; bill black.

Length from tip of the bill to the end of the tail, 3 3/4 inches; of wing, 3 3/5; of tail, 1 3/5; bill to front, 3/10; to gape, 7/10; height from chin to front, 1/3; breadth at front, 2/5; tarse, 3/10; middle toe and claw, 9/10; hind toe, 7/10.


This interesting bird differs from the type of the genus Chelidon by its smaller and more robust bill and by its shorter and even tail; the wings also are shorter. From the genus Cotyle it is at once distinguished by its plumed feet.


Family Merulidæ, Vigors.

Subfamily Timalina, Vigors.

Genus Pyctorhis, Hodgson (1844). Chrysomma (Blyth), Hodgson (1845).

1. Pyctorhis longirostris, Hodgson.

Forehead, crown, nape, back, rump, upper tail-coverts and tail rufous-brown, deepest on the crown, wings and tail, the last being
distinctly rayed; chin, throat, base of lower mandible, middle of belly and vent white; ear-coverts, sides of the neck and breast pale rufescent, brightening on the flanks, thighs and under tail-coverts; under wing-coverts also rufescent; bill black, yellowish beneath at base; legs pale horn.

Length, 8½ inches; of wing, 2³/₄; tail, 3½; bill to frontal plumes, ½; to gape, 1 inch; height from chin to front, 2¾; tarse, 1 inch; middle toe and claw, 1½; central and lateral ditto, 7₀; hind ditto, 7₁₀.  


This bird may be distinguished from Pyct. sinensis (better known under the name of Timalia hypoleuca) by its larger size, by the lengthened bill, the rufescent colour of the under parts, and by the absence of white before the eye. It may possibly be the species noticed by Mr. I. W. Frith, in the 'Journ. As. Soc. Beng.' xiii. p. 370, as being found in Bengal, which he states "differs from the common species in being about half larger."

I may here notice, in connexion with this genus, that Mr. Hodgson, in 'Proc. Zool. Soc.' 1845, p. 24, refers his genus Pyctorhis only to sinensis, and not to the bird named rufifrons, which is there described as an Actinodura, it being synonymous with the species previously described by Mr. Gould under the name of Actinodura Egertoni.

Family Sylviadae, Vigors.

Subfamily Sylviana, Vigors.

Genus Horeites, Hodgson.

2. Horeites major, Hodgson.

Above olive-brown, ruddier on the wings; tail rounded, more of a dusky-brown, with the outer webs fringed with olive-brown; cap red-brown; a yellowish-ferruginous superciliary streak, extending over the ear-coverts; upper part of the latter ruddy-brown, lower ashy; throat, sides of neck, centre of breast and abdomen ashy-white; sides of the breast and flanks olive-brown; bill dark horn-colour, yellowish at base beneath; feet also yellowish.

Length, 5 inches; of wing, 2½; tail, 2½, outer feather ½ an inch shorter than the middle; bill to front, ½; to gape, ½; tarsus, ½; middle toe and claw, 7₁₀; inner ditto, 7₁₅; outer ditto rather more than ½ an inch.


This species may easily be distinguished by its greater size, and larger bill, the wings being much longer, though rounded as in the other species, and by the nearly total absence of ash-colour on the under parts; the feet also are much longer and stronger.
Genus Abrornis, Hodgson.

3. Abrornis poliogenys, Blyth.

*Culicippeta poliogenys*, Blyth, J. A. S. Beng. xvi. p. 441 (1847).

Head and nape, base of lower mandible and ear-coverts dark ash-grey, the loral feathers tipped with greyish-white; round the eye a clear white ring; back, rump and shoulders bright olive-green; wings dusky black, margined with olive-green, the greater coverts tipped with whitish-yellow; throat greyish-white, the rest of the under parts clear yellow; tail dusky on the six central feathers, which are margined with olive-green, the three outer being greenish-dusky on the terminal half of the outer web, the basal half with the whole of the inner web being white; upper mandible blackish horn-colour, lower yellowish; feet yellowish horn-colour.

Length about $4\frac{1}{4}$ inches; of wing, 2 inches; tail, 1$\frac{3}{4}$; bill to front, $\frac{1}{10}$; to gape, $\frac{1}{2}$ an inch; and tarse the same.

"This species is nearly allied to *Abrornis xanthoschistos*, Hodgs., from which it differs in having the cheeks and ear-coverts, with the feathers commencing from the base of the lower mandible, of the same ash-grey colour as the head, and the throat greyish-white, instead of these parts being bright yellow as in that species."

4. Abrornis affinis, Hodgson †.

This species is closely allied to *A. poliogenys*, but differs from it in having the lores, base of lower mandible, lower portion of the ear-coverts, and the chin and throat, the same bright yellow as the rest of the under parts; the feathers of the crown are pale shafted, which is not the case in *poliogenys*; the tail is pale dusky, the two outer feathers only being white on the apical portion of the inner web, the basal portion of which is dusky; the outer web in both is pale dusky green; the other ten are fringed with greenish on the outer web. The wing in *affinis* is a quarter of an inch longer, but has the same markings; the tarsus is also longer by a tenth of an inch. Other characters agree in both species. The bill in this and *poliogenys* is broader than in *A. xanthoschistos*, Hodgson.


5. Abrornis albogularis, Hodgson.

Forehead, lores, over and under the eyes to nape, and ear-coverts brightish ferruginous, the crown being dusky ferruginous, passing to yellowish olive-green on the back and shoulders; the rump yellowish; wings black, margined with the colour of the back; tail pale dusky greenish, edged exteriorly throughout with yellowish-green; throat and base of lower mandible white, the feathers black at base; breast bright yellow; abdomen white, vent yellowish; bill

† No. 920*, to distinguish it from 920 of Mr. Hodgson’s Catalogue.
honey, paler beneath; feet pale honey; the rictorial bristles black, strong, nearly as long as the bill.

Length, 3\(\frac{1}{2}\) inches; of wing, 1\(\frac{1}{4}\); the first quill \(\frac{1}{2}\) an inch shorter than the second; third \(\frac{7}{10}\) ths longer than the first; fourth, fifth and sixth nearly equal, the fifth being the longest; tail, 1\(\frac{3}{4}\) inch; bill to frontal plumes, \(\frac{1}{2}\); to gape, \(\frac{5}{12}\); tarsus, \(\frac{5}{12}\); middle toe and claw, \(\frac{5}{12}\); hind ditto, \(\frac{3}{8}\); tarsus and hind claw strong.

_Hab._ Nepal. (No. 936. Hodgson’s Catal.)

4. _On Runcina Hancocki._

**By Dr. J. E. Gray, F.R.S., V.P.Z.S. etc.**

When in company with Mr. William Thompson, I observed _Runcina Hancocki_ in considerable abundance in the pools left between the rocks at low tide in Belmont Cove, Weymouth, but only on the tufts of _Hypnea purpurascens_ which were infested with _Diatomaceae_, which induces me to believe that they feed on these parasitic plants. I brought several of them to London, and have since sent some to Mr. Alder, who verified the determination. Messrs. Alder and Hancock (Ann. and Mag. Nat. Hist. xviii. 289. t. 4), when they first described the animal, referred it to the genus _Limapontia_, order _Inferobranchiata_. Mr. Edward Forbes (Brit. Moll. iii. 611. t. CCC) formed it into a genus, placed provisionally at the end of the _Eolididae_, observing that in all probability it represented a distinct family.

The examination I have been able to bestow on the animal induces me to agree with Mr. Forbes on this point, and I should be inclined to arrange the _Runcinidae_ in the order _Pleurobranchiata_, near _Bullidae_ and _Pleurobranchidae_. It has the armed gizzard and the gills of _Aplysiadae_. To the excellent description of Messrs. Alder and Hancock, I may add, that the tongue-membrane is covered with three longitudinal series of large transparent teeth, like that of some of the _Bullidae_. The central tooth is broad, transverse, with the upper edge reflexed, notched in the middle, and with three unequal denticles on each side of the middle line. The lateral teeth are rather large, versatile, conic, arched, compressed, with an acute tip. The prehensile collar is horny, large, rugose, with roundish tubercles. I am somewhat inclined to consider the front part of the back, enclosing the eyes, which are rather bent up on the sides and separated from the other part of the back by a paler colour, as the frontal lobe of the _Bullidae_, which is united at this paler part to the true mantle, giving the animal the appearance of having a single oblong shield-like mantle. The mantle is very hard and tough, but without any appearance of a shell or of spicula.
5. On the Genus Modiolarca.

By Dr. John Edward Gray, F.R.S., P.B.S., V.P.Z.S. etc.

In the Synopsis of the British Museum for 1840, pp. 144, 155, I established a family of bivalve shells under the name of Crenellidae, for the genera Crenella and Modiolarca, taking the character of the family from the animal of Modiola trapezina, the type of the genus Modiolarca, the only one that had then come under my examination.

The following were the characters given:—

"The family of Crenellidae chiefly differs from the former (Mytilidae) in the mantle lobes being united together so as to leave only two posterior holes for the entrance and exit of the water, and a slit for the foot and beard. The hinge-margin is denticulated at each end, and the umbo is nearly central."

Shortly after, Mr. Alder described the animal of the British Crenella undulata, and found that the mantle was nearly as much open as that of the Modiola, and complained of the inaccuracy of the description; the fact being, that the two genera had very different animals, and that Crenella had been wrongly referred to the group, and taken as the patronymic of it.

I have lately had an opportunity of verifying my description of the animal of Modiolarca, and find that it exactly agrees with the above character, and that it has a very peculiar-formed foot, most resembling that found in some Arcidae, which caused me to call the genus Modiolarca*.

The following is a more particular description of the animal of the genus, which must be considered as the type of a peculiar family, called

Modiolarcae.

Crenellidae, Gray, 1840.

Genus Modiolarca, Gray, 1840.

Mantle lobes united. Siphonal apertures two, distinct; anal moderate; branchial very large, inferior, simple edged; pedal aperture small, basal, subanterior. Gills four, thick, dependent, subtrigonal, truncated in front, narrow, produced and united together behind. Lips four, moderate. Palpi obsolete. Foot oblong, base truncated, lower end lanceolate, acute in front, with a subposterior, central cavity for the byssus.


The animal lives attached to floating sea-weed.

Modiolarca trapezina† = Modiola trapezina, Lamk. Hist. A. s. V. n. 17. ed. 2. vii. 24; Delessert, Icon. t. 13. fig. 7; Hanley, Cat. Recent Shells, 237.

* Two genera have been made out of this word. Dr. Beck when in this country made a note that I had called the genus Modiolarca; but he appeared to have read it Modiolaria, and that name has been used for it. The latter name is now chiefly used for the more oblong Crenella.

† Since the above was read, I find that M. Valenciennes has considered this shell as the type of a new genus, Phascolicama (see Gay's Chili, 1854); and Mr. Gould has, more lately, formed a genus for it, under the name of Gaimarda.—J. E. Gray.
(1) TYRANNULA PHENICERAR, Sclater.

(2) TYRANNULA ORNATA Latham.
May 9, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Description of a New Species of Humming Bird, from Quijos. By John Gould, F.R.S. etc.**

Mr. Gould exhibited a Humming Bird, lately received from Quijos, which is very nearly allied to *Threnetes leucurus*, but which differs from that species in its larger size, and in having those parts of the tail-feathers of a deep fawn-coloured hue which are white in *T. leucurus*; precisely, in fact, the difference which occurs between *La-fresnaya flavicaudata* and *L. Gayi*. For this bird Mr. Gould proposed the name of

**Threnetes cervinicauda.**

Head, all the upper surface, upper wing-coverts, two central tail-feathers, sides of the neck, breast and flanks shining olive-green; wings purplish-brown; lateral tail-feathers deep fawn-colour, stained on the apical half of the outer margin and the tip of the outer feather with dark brown; a crescent of the same, but of a much paler hue, at the tip of the next; a still fainter mark of the same colour near the tip of the external web of the third; and a nearly obsolete mark, of a similar tint, in the same situation on the fourth; lores and car-coverts brown; on the chin and throat a lengthened triangular mark of black, bounded on either side by a narrow line of greyish-white, and below by a broad band of deep sandy-buff crossing the throat; centre of the abdomen greyish-buff; under tail-coverts olive, narrowly edged with greyish-buff; bill black, with the cutting edge of the upper mandible and the basal three-fourths of the under one pearly-white; feet yellow.

Total length, 4½ inches; bill, 1⅔; wing, 2½; tail, 1½.

_Hab._ Quijos, in Ecuador.

2. **List of a Collection of Birds received by Mr. Gould, from the Province of Quijos in the Republic of Ecuador. By Philip Lutley Sclater, M.A.**

(Aves, Pl. LXVI. and LXVII.)

Among the many novelties in ornithology lately received by Mr. Gould from different parts of the world, is a small but valuable collection of birds from the province of Quixos, or Quijos, in the republic of Ecuador. This country, which lies on the eastern slope of the Andes, where the Rio Napo and other adjoining tributaries of the mighty Amazon take their rise, is a very interesting locality to those who study South American ornithology, being intermediate between
New Grenada—whence so many new forms have lately been sent to Europe—on the one side, and the wood regions of Peru and Bolivia, where Von Tschudi and D'Orbigny pursued their laborious researches in natural history, on the other.

Mr. Gould having most liberally placed this collection in my hands for examination, I have drawn up a complete list of the species as far as I can determine them satisfactorily, in order to show the character of the ornithology of this country—observing that Mr. Gould is expecting fresh consignments from the same quarter, which will doubtless much further increase our knowledge of the fauna of this highly interesting region.

**Hirundinidae.**

1. Acanthylis albigollis (Vieill.).
   *Hirundo collaris*, Wied, Reise nach Bras. i. p. 75 (1820), et Beit. z. Nat. iii. p. 344.
   Acanthylis collaris, Gray's Gen. i. p. 55. sp. 6.

   This fine spine-tailed Swift seems generally distributed over the northern portion of the continent. It was observed by Prince Max. of Neuwied in many provinces of Brazil, by Schomburgk in British Guiana, and Sir William Jardine has examples transmitted by Professor Jameson from the vicinity of Quito. Mr. Gosse has recorded its appearance in Jamaica.

**Trogonidé.**

2. Trogon melanopterus, Sw. (Gould's Mon. pl. 10, 11).

**Bucconidé.**

4. Bucco macrorhynchus, Gm.
5. Bucco collaris, Lath.
6. Malacoptila fusca (Gm.).

**Galbulidé.**

7. Galbula chalcothorax, Sclater, sp. nov.

   G. lāte cupreo-viridis; capite cæruleo; pectore lāte violaceo; macula gulari triangulari alba: ventris plumis basi nigrican-
   tibus, apice albis; rostro pedibusque nigris.

   Long. tota 8·3, alae 3·3, caudae 3·5, rostri 1·5.

   Obs. Similis G. leucogastrea, sed major et pectore violaceo-cupre-
   scente.

   This is an immature bird of a species closely resembling G. leuco-
   gastrea, but of larger size and with a bright violet or purple tinge on
   the breast, which does not appear in examples of the older species.

**Cerebinae.**

8. Dacnis cayana (L.) (Pl. Enl. 669. fig. 1).
9. Dacnis angelica, De Fil. (Pl. Enl. 669. fig. 2).
10. Dacnis atricapilla (V.).
Mr. Gould has himself determined the species of Trochilidae that occur in the present collection, as also the Trogons and Toucans.

   A new species allied to P. intermedia.
12. Phaethornis superciliosus (Linn.)?
   A new species resembling T. leucurus, but with the tail-feathers fawn-coloured where they are white in the other species (see p. 109).
15. Chrysuronia ænone (Lesson).
16. Ilaëna Schreibersi (Bourc.).
   Mr. Gould has made a new generic name for this bird, which has been placed by Prince Charles Bonaparte in his ‘Conspectus Trochilorum’ among the Campylopteri.
18. Gouldia Langsdorfi (Vieill.).

Dendrocolaptinæ.

19. Xiphorhynchus procurvus (Temm.) (Pl. Col. 28. fig. 4).
20. Dendrornis guttata (Licht.).
   These are both Brazilian forms.

Menurinæ.

21. Scytalopus griseicollis (Lafr.).
   A Bogota bird.

Mniotiltinæ.

22. Setophaga raticilla (L.).
   This North American species is one of the few Passeres of that country that extend all through Central America into the northern portions of the southern continent. It is included by Schomburgk among the birds of British Guiana.
23. Myiobius canadensis (L.).
   Described from Bogota by the Baron de la Fresnaye as a new species under the name of Setophaga nigrocineta (Rev. Zool. 1843, p. 292), but, as afterwards acknowledged by the same author, quite identical with North American specimens.
   Also a common U. S. species.

Turdinæ.

   The Prince Charles Bonaparte has reunited this bird to the minor of the U. S., from which M. de la Fresnaye considered it distinct.
Formicariiæ.

26. Thamnophilus stellaris, Spix? (Av. Bras. ii. p. 27. pl. 36. fig. 2).
   ♂ cinereus: pileo dorsoque summo et medio nigris, hujus pennis basi niveis: alarum tectricibus apice maculis rotundis, albis.
   ♀ supra pallide cinereus: subitus brunneus, lateribus cinerascentibus: alis externe rufis.
Long. tota 5·2, alæ 3·0, caudæ 1·6.

This is a typical Thamnophilus with a strong thick bill. There are several examples of it in the Paris Museum in different states of plumage, and it was from examining them that I was enabled to decide that the female above described (which is in my own collection) belongs to this species.

27. Cymbilanus lineatus (Leach), ♂ & ♀.

28. Formicivora caeruleascens (Vieill.), Menetr. Mon. t. 6. fig. 1 & 2. p. 499 (?).

29. Pyriglena quixensis (Cornalia).
Long. tota 4·5, alæ 2·1.

30. Pyriglena rufiventris (Cornalia).
   P. atra, abdomen late castaneo: alarum tectricibus maculis rotundis, albis terminatis: dorsi plumis laxis, elongatis, basi albis: rectricibus graduatis, harum extimis apice albis; rostro pedibusque nigris.
Long. tota 4·5, alæ 2·1, caudæ 2·0.

I have little doubt that I have correctly referred these two birds to the species described by Dr. Cornalia, the types of which I had an opportunity of examining through his kindness when last at Milan. Although they closely resemble one another, except in the colouring of the belly, there is so much difference in the form of the bill in the two specimens in this collection, that I think it hardly possible that, as suggested by Dr. Cornalia, the variations between them can be due to age or sex, and I believe them distinct though nearly allied species. I have placed them in the genus Pyriglena, with the type of which, P. domicella, they agree in several respects; particularly in the lax and elongated feathering of the lower back—a curious structure occurring in several groups of birds, Pycnonotus, Philentoma, &c., and which has not yet, as far as I am aware, been fully explained. In this same genus I should also place that peculiar form, the Myiothera nudiceps of Cassin (Proc. Ac. Sc. Phil. 1850, p. 106),

* Dr. Cornalia’s paper, which is little known in this country, is entitled “Vertebratorum Synopsis in Museo Mediolanense extantium quæ per novam orbum Caietanæ Osculati collegit annis 1846, 47, 48 speciebus novis vel minus cognitis adjectis necnon descriptionibus atque iconibus illustratis: Modoetieæ 1849.”
Pyriglena nudiceps, mihi, of which Mr. Gould has a specimen from Panama, and the MM. Verreaux have lately received examples from Santa Martha in New Grenada.

There are several other birds of this family in the collection that I cannot make out. A modern monograph of the group would be a great addition to our knowledge of South American ornithology.

Agrees with Cayenne specimens.

TYRANNINÆ.

32. Pyrocephalus rubinæus (Bodd.), Pl. Enl. 675. fig. 1.

33. Todirostrum 1.

34. Tyrannula phænicura, Sclater, sp. nov. (Pl. LXVI. 1).

35. Elania cayennensis (Linn.).

TÆNIOPTERINÆ.

36. Copurus filicauda (Spix).

TITYRNÆ.

37. Tityra marginata (Licht.).

AMPELIDÆ.

38. Pipreola Sclateri (Cornalia).


Dr. Cornalia, to whom I owe many thanks for the honour he has done me in calling this elegant bird after my name, rightly insists on the claims of priority of De Filippi's genus Euchlornis over Lafresnaye's Pyrrhorrhynchus. But both these names must, I think, give way to Swainson's term Pipreola, established in 1838 (Animals in Menag. p. 357), the type of which, his P. chlorolepidota, seems closely allied to D'Orbigny's Ampelis viridis. I was rejoiced to see this bird in the present collection, as it clears up a mystery about its habitat, which Dr. Cornalia supposed to be Peru or Bolivia. But I have now no doubt that the type specimen in the Museo Civico at Milan, which is the only other I have seen, came, as the present, from the province of Quixos, and was probably collected there by the enterprising Italian traveller Osculati.

39. Pipreola Riefferi (Boiss.).

No. CCLXVII.—Proceedings of the Zoological Society.
This generic name of Swainson's must be used as prior by several years to *Ptilochloris* of the same author. M. de la Fresnaye has recently reunited his *Ptilochloris remigialis* to the type species *arcuata*, but I am sure that there are two birds confounded under this name, though I have not yet seen enough specimens to enable me to distinguish them accurately. The *P. rufo-olivaceus* and *virescens* of LaFresnaye, described in the Revue Zoologique, 1838, p. 238, do not, I think, belong strictly to this genus. They have both been previously named by Prince Maximilian of Neuwied, the first as *Musicapa turdina*, Beit. iii. 817, the second as *Musicapa virescens*, ib. p. 802.

41. *Pipra Isidori*, Sclater, Rev. et Mag. de Zool. 1852, p. 9; Cont. to Orn. 1852, pl. 100. fig. 1. p. 132.
42. *Pipra coronata*, Spix, Av. Bras. ii. pl. 7. fig. 1.  
(*P. cyaneocapilla*, Hahn. *P. herbaeae*, Spix, ii. pl. 8 a. fig. 1 ? )
I believe Spix's name is prior to Hahn's. The *Pipra herbaeae* of the former (of which I have seen the type in the Munich Museum) is certainly a female of this species.

43. *Pipra leucocilla*, Linn.
44. *Chiromachceris gutturosa* (Desm.) Tang. & Man. pl. 58.
I have my doubts whether this bird is really separable from *Pipra manacus*, as made out in Bp.'s Conspr. p. 171.

**Garrulinæ.**


**Sturnidæ.**

46. *Cacicus persicus* (L.).

**Tanagrinæ.**

48. *Arremon spectabilis*, Sclater, sp. nov. (Pl. LXVII.)
*A. supra aurescenti-olivaceus*: capite nigro, vitta verticali cinerea: superciliis albis: axillis laetissime croceis: subitus albus; mento summo et torque gutturali nigris; lateribus cinerascentibus; rostro flavo.
Long. tota 5·8, alæ 2·8, caudæ 2·5.
This beautiful *Arremon* appears to me to be quite new. It comes nearest perhaps to the *A. aurantirostris* of Lafr. (Des Murs, Icon. Orn. pl. 55), but that has a very broad pectoral band, this a narrow one. Besides, the deep saffron, almost chestnut colour of the bend of the wing is of itself sufficient to distinguish it from all the other species of the genus.
A second example of this bird is in a collection lately received by Sir William Jardine from the same locality.
A bad skin of a female or immature bird.

50. *Ramphocelus* — ? —
A female of one of the species allied to *R. jacapa*.

52. *Tanagra caelestis*, Spix, Av. Bras. ii. p. 42. pl. 55. fig. 2.
Readily distinguished from the other Bishop Tanagers by the silky white bar across the wing. A rare bird in collections. In the Paris museum are examples collected by MM. Castelnau and Deville at Pontobamba in June 1847.

53. Calliste *Parzudakii* (Lafr.).
54. Calliste *Schranki* (Spix).
55. Calliste *xanthogastra*, Sclater.
56. Calliste *gyroloides* (Lafr.) ? .
57. Calliste *cyanicollis* (D'Orb. & Lafr.).
58. Calliste *thalassina* (Strickl.).
59. Calliste *xanthocephala* (Tsch.).
60. *Euphonia xanthogastra*, Sund.

**Capitonidæ.**

61. *Eubucco Bourcieri* (Lafr.).
62. *Eubucco Hartlaubi* (Lafr.).
63. *Capito peruvianus* (Cuv.).

**Cuculidæ.**

64. *Piaya cayana* (Linn.) (Pl. Enl. 211).

**Psittacidæ.**

65. *Psittacula passerina*, Spix ?
Agrees with Bogota specimens.

**Rampastidæ.**

68. *Andigena nigrirostris*, Waterhouse.

**Rallidæ.**

69. *Corethrura cayennensis* (Gm.) (Pl. Enl. 368).
May 23, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. Notice of all the known species of the genus Accentor, with the description of an uncharacterized species from Nepal. By Frederic Moore, Assist. Mus. East India Company.

Family Sylviadæ, Vigors.

Subfamily Accentorina, Vigors.

Genus Accentor, Bechstein.

1. Accentor alpinus, Gmelin.

Motacilla alpina, Gmel. S. N. L. i. p. 957.

Sturnus moritanus, Gmel. S. N. L. i. p. 804.


Le Fauvette des Alpes, Buffon.

The Alpine Accentor, Eyton; Yarrell.

Hab. Europe.

2. Accentor nipalensis, Hodgson.


Accentor cacharensis, Hodgs. P. Z. S. 1845, p. 34.

The Nepal Accentor, Gray.

Hab. Nepal.

A. nipalensis.—“Newly-moulted adults have the upper parts nearly as in A. modularis, but the dark colour predominating, and the striation of the head and neck obsolete, or nearly so, these parts, with the ear-coverts and breast being of an almost uniform dark brownish-grey; throat white, spotted with dusky-black, which forms two cross-bars on each feather, their extreme tips being greyish; belly and flanks bright dark ferruginous, mingled with the hue of the breast along the middle of the former; under tail-coverts dusky, tinged with ferruginous, and laterally margined with white; the feathers of the back are greyish-brown, with broad dark centres, or they may be described as blackish, with brown lateral margins, tinged with ferruginous towards and upon the scapularies; wings dusky-black, the
tertiaries broadly margined with ferruginous, the other large alars slightly so, and all having a spot of this colour at the extremity of their outer edge; wing-coverts having a white spot at the tip of their exterior webs, and the small feathers near the bend of the wing coloured like the head; tail brownish-black, tipped with brown, the terminal spot of the inner web of each feather successively more albescent to the outermost; upper tail-coverts long, and brown with a dark central streak; bill dusky, the lower mandible yellow except at tip; legs reddish-brown. In worn plumage, the margins of all the feathers have more or less disappeared, and what remains of them is faded in hue; the conspicuous white spots on the wing-coverts, and ferruginous margins of the terciaries, being completely abraded, the former leaving a semicircular sinus, as if artificially cut away. The young have the clothing plumage of the usual flimsy texture, the under parts coloured like the back, with no ferruginous on the belly, the spots on the wing-coverts are larger and less purely white; and the ferruginous on the scapularies and wing-coverts dingy.”

Length about 7 inches; of wing 3½ inches; tail 2¼; bill to gape ⅛ths; and tarse ⅛ths of an inch.

* This species appears to represent *A. alpinus* on the Kachar region of Nepal.

3. **Accentor variegatus**, Blyth.


**Accentor variegatus**, Blyth, J. A. S. Beng. xii. p. 958 (1843);


**Accentor alpinus**, Vieill, Gall. des Ois. t. 156 (nec Gmel.).

The Variegated Accentor.

*Hab.* Sikim; Kasouli; Nepal (No. 964, Hodgson’s Catalogue).

*A. variegatus.*—“Forehead, crown, occiput, neck, shoulder of the wings, and rump dingy grey-brown, with an inconspicuous lighter greyish eye-streak; throat and fore-neck white, with small round spots disposed as in *alpinus*; ear-coverts streaked with fulvescent, and small loral and infra-orbital feathers tipped with fulvous-white; gorget brown, more or less tinged with rufous, which latter brightens on the lower breast, flanks, and sides of the belly, the feathers being laterally edged with white, and some having dark streaks on the flanks posteriorly; lower tail-coverts white, with lanceolate central dusky spots; wings intricately mottled, having the anterior range of coverts dusky-black with white tips, the next or great range fulvescent-grey externally at base, and dusky-black for the remainder with slight whitish tips; primaries edged with grey, secondaries with brown, and tertials with fulvous; scapularies and interescapularies rufous-brown, mottled with large black terminal spots on the middle of each feather; tail dusky, having a large white spot at the tip of the inner web of each feather; bill black; legs pale reddish.”

* This name was changed to *variegatus* by Mr. Blyth, as the other Indian species of this genus are also found in the Himalayas.
4. **Accentor modularis**, Linn.


The Hedge **Accentor**. Selby. Yarrell.

*Hab.* Europe.

5. **Accentor rubidus**, Temm. et Schlegel.


The Japan **Accentor**.

*Hab.* Japan.

This species is closely allied to the common *A. modularis*, Linn.


*Hab.* Eastern portions of Europe and Asia.

7. **Accentor rubeculoides**, Hodgson, n. sp.

**Accentor rubeculoides**.—Forehead, crown, nape, ear-coverts and chin brown; infra-orbital feathers tipped with whitish; throat, sides of neck, and shoulder of wings dingy grey-brown, the feathers of the throat blackish at base; back and rump ferruginous, centred with dusky; wings dusky, margined exteriorly with ferruginous; lesser and greater wing-coverts tipped with white; tail dusky, margined exteriorly with pale ferruginous; breast and fore part of flanks ferruginous, the latter streaked with dusky; belly white, tinged with ferruginous on the flanks posteriorly, vent, and margins of the under tail-coverts; the latter centred dusky. Bill blackish; feet pale reddish.

Length 6 inches; of wing 3; tail 2½; bill to front ⅛ths; to gape ¾ inch; tarse ¾.

The Robin **Accentor**.

*Hab.* Nepal (No. 970, Hodgson’s Catalogue).
This fine undescribed species was lately presented by B. H. Hodgson, Esq., to the Museum of the Hon. East India Company.

8. Accentor strophiatus, Hodgson.


The rufous-breasted *Accentor*, Gray.

*Hab.* Himalayas.

*A. strophiatus.*—"Upper parts much as in *A. modularis*, but the colours brighter and more contrasted, and the crown and neck uniform with the back; a broad eye-streak, the first of which is white to beyond the eye, surmounting a ferruginous streak continued backward to the occiput; a semicircle of the same surrounds the dusky ear-coverts, and the entire breast is also ferruginous; throat white, with dusky spots, forming a line descending from each angle of the lower mandible; belly and lower tail-coverts white with dusky streaks; wing-feathers dusky, margined with ferruginous, with an albescent spot at the tip of each covert; tail brownish, with dull rufous outer margins; bill black; legs reddish-brown."

Length about 5½ inches; of wing 2¼ to 2½; tail 2½ to 2¾; bill to gape 6ths; and tarse 18ths of an inch.


The unspotted *Accentor*.

*Hab.* Nepal; Sikim.

*A. immaculatus.*—"Upper parts a rich brown, passing into pure dark ash-colour on the head and neck, and into maroon on the scapulars and tertiaries, and less deeply on the hind part of the back; coverts of the secondaries pure dark-grey, those of the primaries, with the winglet black, as also the primaries, these last having their unemarginated portion externally bordered with pale-grey; tail greyish dusky; frontal feathers to above the eyes margined with white, the lores blackish, and the entire under parts slightly embrowned deep ash-colour as far as the vent, which is pale and tinged with ferruginous, the under tail-coverts being deeper ferruginous, and the hind portion of the flanks dark ferruginous; bill blackish; feet fleshy grey; iris straw-colour."

Length about 6 inches; tail 2½; wing 3¼; bill to frontal feathers 16ths; and tarse ¾ of an inch.

10. Accentor Huttoni, Moore.

*Accentor atrogularis*, Hutton (nee Brandt ?), J. A. S. Beng. xviii.

Hutton's Accentor.


A. Huttoni.—"General colour above brown, the feathers centred dusky, more rufescent on the back, greyer on the nape, rump and upper tail-coverts; crown darker; a broad line above the superciliary streak, with the ear-coverts and throat dusky-black, the latter divided from the ear-coverts by a pale line proceeding from the base of the lower mandible, and this with the entire supercilium and the breast, of a uniform light rufescent sandy hue; belly whitish, the flanks streaked with dusky; wing-coverts slightly tipped albescent, forming slight cross-bands. Bill dusky, yellowish towards gape, and feet pale." "Irides brown."

Length 6 inches; of wing 2|7ths; tail 2|3; bill to gape 3|4ths; and tarse 3|4th of an inch."

11. Accentor Altaicus, Brandt *.


The Altaic Accentor.

Hab. Siberia.

12. Accentor atrogularis, Brandt.


The Black-throated Accentor.

Hab. Siberia.

"The species of this genus," remarks Mr. Yarrell, in his admirable work on British Birds, "are very limited in number, only five, I believe, being at present known; two are figured in this work as belonging to England, two others are found in the north and east of Europe†, and a fifth has been received from the Himalaya mountains." The discovery of six distinct species in India, which have mostly been collected in Nepal by B. H. Hodgson, Esq., one from Japan, and the two described by Dr. Brandt, making in all twelve species, is accordingly no small accession to the known species of this interesting genus.

* Not having been so fortunate as to examine the descriptions of Dr. Brandt's species, I am unable to describe them in this notice.

† One of which species is in all probability the so-called Accentor Calliope of Temm. v. Calliope Camtschalkensis, Gmel., which, certainly, has no affinity to Accentor.
June 13, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Descriptions of Six New Species of Auriculacea, from the Collection of H. Cuming, Esq.**

   By Dr. L. Pfeiffer.

1. **Auricula Turrita, Pfr.** *A. testa imperforata, oblongoturrita, solida, striis longitudinalibus et transversis granulatodecussata, sub epidermide fusca, parum nitente alba; spira elongata, apice obtusula, sæpe erosa; anfr. 7, infra suturam turgidis, celeriter accrescentibus, ultimo spiram aequante, basi subattenuato; apertura angusta, acuminato-ovali, intus lactea; anfr. 7, infra suturam turgidis, celeriter accrescentibus, ultimo spiram aequante, basi subattemiato; apertura angusta, acuminato-ovali, intus lactea; plicis parietalibus 2, superior e antice nodiformi, introrsum atte-nuata, altera oblique extrorsum producta; plica columellari duplicata, vis obliqua; perist. recto, acuto, intus callo crasso, albo avuto. Long. 50, diam. 16 mill.

   Hab. Philippine Islands.

   This species belongs to the genus *Ellobium* of H. and A. Adams, not of Bolten, who comprises under that name species of *Bulimus, Auricula, Lamk.,* (as stated in 1801) and *Melampus.* Therefore Lamarck's name should be retained for it.

2. **Auricula Saccata, Pfr.** *(Ellobium elongatum, var., H. and A. Adams, in Mus. Cuming).* *A. testa breviter et profunde rimata, obclavata, solida, striatula, irregulariter erosa, nitidula, fuscolutea; spira elongato-conica, acuta; sutura plana, lacerâ; anfr. 8-9, planis, ultimo spiram subæquante, deorsum dilatato, basi saccato; apertura verticali, anguste ovali; plica parietalis 1 par-vula, mediana, subtransversa; plica columellari obsolete bidenti-culata; perist. obtuso, marginine dextro superne sinuato, intus medio incresato, columellae dilatato, calloso, patente. Long. 14, diam. max. 6 mill.

   Hab. Manilla.

3. **Melampus Adamsianus, Pfr.** *M. testa subrimata, ovato-oblonga, solidula, laxigata, atro-virente; spira convexo-conica, acuta; sutura lineari; anfr. 9, planis, superis subplicatis, ultimo ½ longitudinalis formante, superne obsolete angulato, proprie sutu-rum fascia latiore, nonnullisque angustis pallidis ornato, striis incrementi nonnullis irregulariter sculpto, basi rotundato; apertura subverticali, anguste semi-ovali; plica parietali 1 mediocri, compressa, transversa; plica columellari obliqua, extrorsum pro-recta; perist. recto, albo-limbato, marginedextro superne sinuato,
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intus plicis 6–7 brevibus, albis munito, columellari calloso, sub-dilatato.

Long. 10, diam. 5 mill.

Hab. New Zealand.

4. MELAMPUS spiralis, Pfr. M. testa subtrimata, biconica, solidula, striatula, nitidula, alba; spira conoidea, acute mucronata; sutura lineari; anfr. 10, superius planis, distincte spiraliter striatis, ultimo \( \frac{3}{4} \) longitudinis, fere æquante, spiraliter obsoletissime striato, infra suturam excavato, tum obtuse angulato, deorsum regulariter attenuato, basi compresso; aperture subverticali, oblonga, basi rotundata; plicis parietalibus sub 2, superiores lamellæformi, intrante, altera immediate infra illam, obsoleta; plica columellari alta, extrorsum subhorizontaliter prorecta; perist. acuto, margine dextro superne angulato, intus plicis transversis 7–8 munito, columellari parum dilatato, subpatente.

Long. 16, diam. max. 9 mill.

Hab. —?

5. MELAMPUS crista tus, Pfr. M. testa imperforata, oblongovata, solida, spiraliter confertim striata, sericea, luteo-fulva; spira brevi, conæsa, mucronata; sutura canaliculata; anfr. 8, convexiusculis, penultimo latiore, ultimo \( \frac{2}{3} \) longitudinis formante, supra medium ventroso, basi attenuato; aperture vix obliqua, perangusta, basi binauso; plicis parietalibus 3, suprema nodiformi, 2 subtransversis, extus in cristas callosam, spiralem continuatis; plica columellari valida, fere verticali; perist. acuto, margine dextro intus callo crasso, albo, confertim transverse plicato munito, columellari subdilatato, appresso.

Long. 9\( \frac{1}{2} \), diam. 6 mill.

Hab. Philippine Islands.

6. PEDIPES tridens, Pfr. P. testa imperforata, globoso-conica, tenui, obsolete et confertim spiraliter striata, saturate fusca; spira turbinata, acuteuscula; sutura profunda, marginata; anfr. 5, convexis, ultimo \( \frac{2}{3} \) longitudinis, formante, infato; aperture fere diagonalis, subsemicircularis; plica parietali mediocris; labio columellari calloso, dentibus 2 distantibus munito; perist. simplice, acuto, edentulo.

Long. 3\( \frac{3}{4} \), diam. max. 2\( \frac{1}{2} \) mill.

Hab. Bermuda.


By Dr. L. Pfeiffer.

1. VITRINA aurea, Pfr. V. testa ambitu subauriformi, depressa, nitidissima, pellucida, aurea; spira plana, vertice vicem prominulo; sutura levissima, marginata; anfr. 3 subplanis, raptide acrescentibus, ultimo depresso, peripheria obsoletissime subangulato,
basi vix convexiore, lato; apertura perobliqua, ovali, intus sub-
margaritacea; perist. simplice, margine dextro antrorsum sub-
dilatato, columnellari leviter inflexo.
Diam. maj. 13, min. 9, alt. 4\(\frac{3}{4}\) mill.
_Hab._ Salomon’s Islands.

2. **Succinea simplex**, Pfr. _S. testa ovata, tenui, striata, pellu-
cida, nitida, succinea; spira brevi, conica, vertice submammillato,
acutiusculo; anfr. 2\(\frac{1}{2}\) convexis, ultimo \(\frac{3}{4}\) longitudinis aqvaente;
columna substrictae recedente, leviter callosa; apertura obliqua,
incumbente, angulato-ovali; perist. simplice, recto, marginibus
regulariter conniventibus.
Long. 9\(\frac{1}{2}\), diam. 6, alt. 4\(\frac{1}{2}\) mill.
_Hab._ Salomon’s Islands.

3. **Succinea repanda**, Pfr. _S. testa ovato-oblonga, tenui, con-
fertissime capillaceo-striata, vix sericea, pallide griseo-comea;
spira conica, acuta, plerumque erosa; anfr. 3\(\frac{1}{2}\) convexus, ultimo
convexiusculo, ultimo basi repando; columnella superne subplicata,
callosa, leviter arcuata; apertura obliqua, angulato-ovali, intus
submargaritacea; perist. simplice, recto, marginibus callosa;
Long. 12, diam. 6\(\frac{1}{2}\), alt. 5 mill.
_Hab._ Banks of the river Negro, New Granada.

4. **Helix generalis**, Pfr. _H. testa imperforata, globoso-tur-
binata, striata et rugulis obliquis præcipue subtus sculpta,
non nitida, sub epidermide luteo-virente alba; spira convexo-
conoidea, obtusa; sutura levii, submarginata; anfr. 4\(\frac{1}{2}\), con-
vesiusculis, celeriter accrescentibus, ultimo antice vix descen-
dente, supra peripheriam lira plana latiuscula cineto, basi param
convexo; columnella vix obliqua, compressa, excavata, alba;
apertura diagonalis, oblique truncato-ovali, intus lactea; perist.
tenui, marginibus conniventibus, dextro vix expansiusculo, basali
incassato, breviter reflexo, cum columnella angulum obtusum
formante.
Diam. maj. 57, min. 45, alt. 40 mill.
_Hab._ Philippine Islands.

5. **Bulimus excoriatus**, Pfr. _B. testa aperte umbilicata,
OVato-acuminata, tenuiuscula, striatula, sub lente punctulata,
non nitente, carnea; spira conica, acuta; anfr. 6, convexiusculis,
ultimo spirum superante, subinflato; apertura parum obliqua,
acumino-ovali; perist. tenui, expanso, marginibus fere con-
tiguis, callo tenui junctis, dextro medio dilatato, columnellari
perdilatato, patente.
Long. 39, diam. 19 mill.
_Hab._ Andes of Peru (Captain Keppell).

6. **Bulimus cretaceus**, Pfr. _B. testa umbilicata, ovato-conica,
solidula, striatula et impresso-punctata, opaca, cretacea; spira
convexo-conica, apice acutiuscula; anfr. 6, vix convexiusculus, ultimo spiram paulo superante, antice subascendente, basi juxta umbilicum profundum, subcompressum rotundato; apertura vix oblquia, oblongo-ovali, intus fusca; perist. tenui, albo-limato, marginibus convergentibus, callo junctis, dextro late expanso, columellari fusco, dilatato, fornicatim patente.

Long: 36, diam. 18 mill.

Hab. Eastern Islands (Captain Keppell).

7. **Bulimus tristis**, Pfr. *B. testa compresse umbilicata, oblongo-conica, tenui, laevigata, nitidula, albida, fascis et strigis vel seriebus macularum quadratarum, violaceo-fuscarum ornata; spira convexo-conica, apice acuta; anfr. 6, vix convexiusculis, ultimo spiram paulo breviore, basi angustato, subascendente, rotundato; apertura vix obliqua, oblongo-ovali; perist. tenui, marginibus dextro breviter expanso, columellari luteo vel albo, superne dilatato, fornicatim reflexo.

Long. 28, diam. 11 mill.

Hab. New Granada.

8. **Bulimus histrio**, Pfr. *B. testa subperforata, ovato-conica, tenui, laevigata, nitida, lutescenti-alba, serie macularum castanearum, subquadraatum supra suturatam picta; spira conica, apice nigra, obtusula; anfr. 5½, convexiusculus, ultimo spiram vix superante, infra medium nigro-fusco bizonato, basi rotundato; apertura parum obliqua, elliptico-ovali; perist. simplice, recto, margine dextro leviter arcuato, columellari subverticali, superne late reflexo, perforationem fere tegente.

Long. 13, diam. 7½ mill.

Hab. Tanna, New Hebrides.

9. **Bulimus Columbiensis**, Pfr. *B. testa breviter rimata, subperforata, oblongo-turrita, solida, sublaevigata, parum nitida, flavido-albicante; spira elongata, subconveo-turritia, apice cornea, acutiuscula; anfr. 7, vix convexiusculus, ultimo ¾ longitudinalitis aequante, basi subcompresso; columella stricta, recedente; apertura parum obliqua, oblongo-ovali; perist. recto, acuto, margine dextro leviter arcuato, columellari subito reflexo, patente.

Long. 28, diam. 11½ mill.

Hab. Columbia.

10. **Bulimus simpliculus**, Pfr. *B. testa perforata, conico-ovata, solida, rugulosistoatra (lineis spiralibus sub lente obsolete decussata), nitidula, alba, punctis pellucidis passim conspersa; spira convexo-conica, apice cornea, obtusula; sutura minute crenulata; anfr. 6, modice convexis, ultimo spira paulo breviore, basi subrotundato; columella substricta, superne subplicata; apertura vix obliqua, oblongo-ovali; perist. simplice,
recto, margine dextro leviter arcuato, columellari dilatato, fornicatim reflexo.
Long. 19½, diam. 9½ mill.
Hab. ——?

11. Bulimus Marmatensis, Pfr. B. testa perforata, globoconica, tenui, striatula, pellucida, pallide griseo-fulva; spira conica, obtusiuscula; anfr. 4⅓, modice convexus, ultimo spiram vix superante, rotundato; columella leviter arcuata; apertura parum obliqua, rotundato-ovali; perist. simplice, recto, margine dextro perarcuato, columellari superne dilatato, supra perforationem angustam fornicatim reflexo.
Long. 17, diam. 10 mill.
Hab. Marmato, New Granada.

12. Bulimus haplochrous, Pfr. B. testa perforata, ovato-fusiformi, tenui, sublevigata, non nitente, diaphana, corneo-albida; spira elongata, convexo-turrita, acutiuscula; anfr. 7, vix convexiusculis, ultimo spira paulo breviore, basi attenuato; columella leviter arcuata; apertura obliqua, subelliptica, basi subangulata; perist. simplice, recto, margine dextro regulariter arcuato, columellari sursum dilatato, fornicato-reflexo.
Long. 30, diam. 12 mill.
Hab. ——?

13. Bulimus diaphanus, Pfr. B. testa anguste perforata, turrito-oblonga, tenui, striatula, haud nitente, diaphana, epidermide rufa, transversim lirata induta; spira elongato-conica, apice obtusula; anfr. 6, convexiusculis, ultimo ¾ longitudinis subaequante, basi rotundato; columella substricta; apertura vix obliqua, oblongo-ovali; perist. simplice, acuto, margine dextro recto, leviter arcuato, columellari vitreo, superne fornicatim reflexo.
Long. 15, diam. 7 mill.
Hab. S. Thomas, W. Indies (Bland).

14. Partula pacifica, Pfr. P. testa compresse umbilicata, ovato-conica, tenuiuscula, sublente minutissime spiraliter striata, nitidula, straminea, lineis albis et fulvis radiata; spira conica, apice acuta; sutura profunda, submarginata; anfr. 5⅓, convexis, ultimo spira paulo breviore, basi subattenuato; columella superne recedente, fornicata; apertura vix obliqua, truncato-oblonga; perist. albo, expanso, margine dextro superne arcuato, columellari late patente et reflexo.
Long. 22, diam. 10 mill.
Hab. Pacific Islands.

15. Achatina virens, Pfr. A. testa cylindraceo-turrita, tenuissima, leviter striatula (striis ad suturam distinctioribus), nitidissima, pellucida, virenti-cornea; spira elongata, superne sensim attenuata, apice obtusula; sutura subcrenulata; anfr.
8, convexiusculis, ultimo \( \frac{1}{3} \) longitudinis vix aequante, convexiore; columnella perarcuata, abrupte truncata; apertura verticali, irregulariter ovali; perist. simplice, recto, margine dextro leviter arcuato.

Long. 18, diam. 8 mill.

Hab. — ?

16. Achatina Maniensis, Pfr. A testa subrimata, ovato-oblonga, solidula, sublcevigata, pallide cornea; spira convexoturrita, apice obtusa; sutura marginata; anfr. 6, vix convexiusculis, ultimo \( \frac{2}{3} \) longitudinis subequante, basi subcompresso; columnella verticali, introrsum subtorta, ad basin apertura subrhombo-ovalis truncatula; perist. simplice, obtuso, margine columellari reflexiusculo, adnato.

Long. 7, diam. 3 mill.

Hab. Mani, Sandwich Islands (Dr. Newcomb).


By Dr. L. Pfeiffer.

1. Cyclostoma (Cyclophorus) alabastrinum, Pfr. C. testa umbilicata, subdepresso-turbinata, solida, sublcevigata, spirali ter minutissime striata, alabastrina; spira turbinata; sursum livido-fusca, apice convexuscula; anfr. 5, convexis, celeriter accrescentibus, ultimo peripheria obsoletissime subangulato et antice rudimenta fasciae castaneae exhibente, basi inflato; umbilico angusto, vix pervio; apertura vix obliqua, circulari; perist. fulvo-carneo, continuo, breviter adnato, crasso, undique reflexo, margine sinistro subdilatato.

Diam. maj. 45, min. 34, alt. 25 mill.

Hab. Ceylon (Mr. Thwaites).

2. Cyclostoma (Cyclophorus) polynema, Pfr. C. testa umbilicata, depresso-turbinata, tenuiuscula, oblique striata et liris filiformibus confertissimis, subtus obsoletioribus, cincta, superne flammis angulosis latete castaneis et albidis variegata; spira brevi, turbinata, apice obtusa; anfr. 4\( \frac{1}{2} \), convexiusculis, rapide accrescentibus, ultimo ad suturam antice subplanato, peripheria obsoletissime angulato et fascia lata, nigro-fusca, deorsum diluta ornato, circa umbilicum mediocrem pallido; apertura obliqua, subrotundata, laiobre quam alta; perist. albo, continuo, breviter adnato, margine dextro expansiusculo, columellari breviter revoluto.

Diam. maj. 33, min. 26, alt. 17 mill.

Hab. — ?

3. Cyclostoma (Cyclophorus) excellens, Pfr. C. testa umbilicata, subturbinato-depressa, solida, confertim spiraliter
sulcata, parum nitida, fusco-aurantiaca, strigis angustis, fulguratis, albis elegantissime picta; spira breviter turbinata, apice corneo, obtusulo; anfr. 5, convexis, rapide accrescentibus, ultimo carina funiformi alba et adjacente linea rufa cincto, superne turgido, juxta suturam excavato, basi pallido, circa umbilicum late infundibuliformem subangulato; apertura parum obliqua, subcirculari, intus margaritaceo-alba; perist. pallide carneo, continuo, breviter adnato, superne subangulato, margine dextro breviter patente, sinistro anguste reflexo.

Diam. maj. 53, min. 42, alt. 24 mill.

Hab. —

4. Cyclostoma (Cyclophorus) spironema, Pfr. C. testa umbilicata, subturbinato-depressa, solida, liris crebris filiformibus sculpta, superne late castaneo et albido variegata; spira brevi, vertice acutiusculo; sutura submarginata; anfr. 4, convexis, rapide accrescentibus, ultimo juxta suturam subplanato, ad peripheriam rotundatum fascia alba et infra eam altera late castanea ornato, circa umbilicum latiusculum sublunigato, pallido; apertura vix obliqua, subangulato-circulari; perist. continuo, breviter adnato, vix expanso, ætate in tubum mediorem, spiraliter striatum, producto.

Diam. maj. 28, min. 22½, alt. 14 mill.

Hab. India.

5. Cyclostoma (Cyclophorus) thwaitesi, Pfr. C. testa late umbilicata, depressa, subdiscoidea, tenui, subconfertim arcuato- striata, nitidula, luteo-fulva, strigis angulosis castaneis elegantem flammata; spira subplana, vertice vix prominulo; sutura profunda; anfr. 4, modice convexis, celeriter accrescentibus, ultimo terete, anice vix descendente; apertura fere diagonali, ovali-rotundata; intus submargaritacea; perist. simplice, acuto, marginibus fere contiguis, callo tenui junctis, dextro expansi- culo, columellari subreflexo.

Diam. maj. 12, min. 9, alt. 5 mill.

Hab. Ceylon (Mr. Thwaites).

6. Cyclostoma (Leptopoma) flammeum, Pfr. C. testa angustissime umbilicata, elongato-conica, tenui, oblique leviter striatula, fulva, strigis angulatis rufis ornata; spira elevata, conica, apice acutiuscula, pallida; sutura profunda; anfr. 6, perconvexis, lente accrescentibus, ultimo rotundata; apertura parum obliqua, subcirculari, intus concolore; perist. simplice, recto, marginibus breviter disjunctis, columellari subdilatato, patente.

Diam. maj. 8, min. 7, alt. 8 mill.

Hab. Ceylon (Mr. Layard).

7. Cyclostoma (Leptopoma) conulus, Pfr. C. testa anguste umbilicata, conica, tenui, epidermide corneo-fulva, distantem membranaceo-costulata induta; spira regulariter conica, apice
obtusiuscula; anfr. 5, sensim accrescentibus, subangulato-convexus, ultimo liris sub 6 distinctis filiformibus cincto; apertura parum obliqua, subangulato-circulari; perist. simplice, acuto, vix expansiusculo, marginibus subdisjunctis, columnellari reflexiusculo.

Diam. maj. 4, min. 3½, alt. 3½ mill.

Hab. Ceylon (Mr. Thwaites).


Long. max. 17, diam. anfr. penult. 8 mill.

Hab. Jamaica.


Diam. maj. 12, min. 10, alt. 9-10, mill.

Hab. —?

10. *Cyclostoma (Chondropoma?) puncticulatum*, Pfr. *C. testa* anguste perforata, obato-oblonga, truncata, liris spiralisbus levibus, costulisque illas transgressibus confertissimis sculpta, cereo-albida, seriis spiralisibus punctularum rufo-ornata; spira subturrita; sutura elegantis et subremote dentata; anfr. superst. 4, modice convexis, regulariter accrescentibus, ultimo antice soluto, dorso carinato, infra medium liniis nonnullis rufo-cincto; apertura verticali, subelliptica, superne angulata, basi subeffusa; perist. simplice, continuo, undique breviter expanso.

Long. 10, diam. 5 mill.

Hab. West Indies.

11. *Cyclostoma (Chondropoma?) angustatum*, Pfr. *C. testa* vix perforata, oblongo-turrita, truncata, solidula, liris spiralisbus costisque confertioribus obtuse clathratis, fulvo-lutea, fasciis interruptis castaneis picta; spira convexo-turrita; sutura confertam et acute crenata; anfr. superst. 4½, convexiusculis, ul-
123 Mullera lobata. 2a, 3 a spires enlarged, showing the symmetrical state of the Shells.
45 Bulimus bivacunosus Gmel.
timō angustatō, basi confertius spiraliter sulcato, antice vix soluto; apertura verticali, ovali-rotundata; perist. subduplícato, undique breviter expanso, superne subangulato.

Long, 16, diām. 7 mill.

Hab. —?

4. ON THE GENUS MULLERIA, SOWERBY, OR ACOSETEA, D'ORBIGNY.

BY DR. JOHN EDWARD GRAY, F.R.S., P.B.S., V.P.Z.S.

(Mollusca, Pl. XXIX.)

M. d'Orbigny has very kindly transferred to me the specimens of the shells which he described, in the 'Rev. et Mag. Zool.' 1851, under the name of Acostea Guaduasana, and which he had received from Rio Sero near Guadal (Rio Magdalena) in Bogota. The examination of the specimens proves the truth of the supposition which I formerly expressed, that Mr. Sowerby's genus Mulleria was described from an imperfect specimen of this shell which had lost its umbones, with the young free state of the shell attached to them, in the manner so characteristic of this genus.

The series of specimens consists of a pair, not in a very perfect condition, and without the produced umbo of the attached valve, like the specimen described by Mr. Sowerby, but in a less worn condition, four specimens of the attached valve, and several of the free upper one.

The series of attached valves is curious, as showing the very different state of the umbo, the manner in which the free valves are modified before one of the valves becomes fixed; also the manner in which the upper free valves separate from the free part by a natural crack, when the free valves become united together by their edges, forming a shelly tube. In two of the specimens this crack takes place almost immediately behind the posterior end of the symmetrical free shell; in two of the others, the hinder part of the free shell is dilated into a triangular irregular portion before the hinder older part of the upper valve separates from the young one; in one of these the triangular tube thus formed is narrow and elongate; in the other, broad, forming a nearly equilateral triangular cavity under the umbo of the attached valve.

In three of the five specimens the shell is attached by the outer surface of the right valve, and in the other two by that of the left valve; the three specimens attached by the right valve exhibit all the three variations in the form of the umbo, viz. the absence of the free shell (fig. 1.), the small (fig. 2.), and the large and much-dilated (fig. 3.) state of it.

There can be no doubt, as far as one can undertake to determine from the examination of the shell alone, of the affinity of this genus with Etheria, from which it appears only to differ in the very small size, or indeed in the total absence of the anterior adductor muscle. Like Etheria, the lower valve is rather attached to the stones and No. CCLXVIII.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.
shells to which it is affixed, by inequalities in the form and surface of the shell, than by any real attachment of the substance of the shell itself, for the attached valves are covered with a continuous periostraca.

As all attached shells have a free young state, as may be seen by examining the umbones of Arcinella, Chama, and other attached bivalves, the young of Etheria are doubtless free, and there is nothing peculiar in the young of Mülleria being free; but there is a great peculiarity in the young shell becoming united into a tubular case, and one of the valves, after the other has become attached, separating itself from its younger part by a natural caries or crack.

June 27, 1854.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. **Descriptions of Thirty-nine New Species of Shells, from the Collection of Hugh Cuming, Esq.**
   
   **By Arthur Adams, F.L.S., &c.**
   
   (Mollusca, Pl. XXVIII.)

   1. **Volva rosea**, A. Adams. (Pl. XXVIII., fig. 9.) *V. testa elongata, medio ventricosa, ad extremitatis attenuata, coarctata, rectiuscula, rosea, albo-varicosa, laevi, dorso fascia angusta, transversa, albida ornato, labio in medio ventricoso, ad extremitatis subrecurvo, labro crasso, antice angulatim arcuato, ad canalem emarginato.

   **Hab.** China. **Mus.** Cuming.

   Like *V. birostrata*, but is more slender, and more attenuated posteriorly, and wants the spiral fold on the hind part of the inner lip; the anterior beak is straight and not recurved, and the marginal varix of the outer lip is thinner.


   **Hab.** New Caledonia. **Mus.** Cuming.

   This is a pure white, pearl-like shell, semi-pellucid, finely striated across, gibbous on the back, with hardly any trace of the usual callus at the hind part of the inner lip, and with a prominent longitudinal ridge at the fore part.

   3. **Amphiperas rhodia**, A. Adams. (Pl. XXVIII., fig. 8.)

   *A. testa ventricosa, subpyriformi, rosacea, albo-varicosa, dorso*
1. Rapana Rhodostoma  
2. Stomatia decorata  
3. Gyropidea Balkici  
4. Tudiola recurva  
5. Mitra Mouchii  
6. Serissa Crayi  
7. Pisania Hermannsom  
8. Amphipera Rhodia  
9. Volva rosea
subgibboso, ad extremitates subacuta, canalibus brevibus, subproductis, integris; apertura angusta; labio lavi, tumido, postice callo producto, spirali instructo, ad canalem tortuosum, antice excavato, ad canalem obscure uniplicato, labro complanato, lirato, intus denticulato.


A beautiful delicate pink species, with the posterior canal a little produced, and the inner lip at that part spirally contorted, the anterior part excavated and the extremities transversely sulcated.

4. AMPHIPERAS SCITULA, A. Adams. A. testa ovali, ventricosa, lavi, alba, transversim striata, ad extremitates subproducta; apertura angusta, canalibus brevissimis, integris, labio postice callo spirali instructo, antice uniplicato, labro complanato intus et ad extremitates usque ad marginem plicato-dentato.


This is a small species of a white colour somewhat resembling A. concinna, Sow., but the back is not gibbous, and is transversely striated; the striae are sometimes almost obliterated in the middle.

5. AMPHIPERAS PYRULINA, A. Adams. A. testa ventricosa, pyriformi, albida, ad extremitates subproducta et pallide fulva, transversim striata; apertura angusta; labio lavi, in medio tumido, canalibus brevibus vix emarginatis, postice callo simplici instructo, labro intus crenulato.


A neat pyriform species very much resembling A. bimaculata, but the interior of the beaks wants the orange spots seen in that species, and the general form of the shell is pyriform and constricted anteriorly.

6. AMPHIPERAS BIMACULATA, A. Adams. A. testa ovali, subpyriformi, albida, fasciis tribus pallide fuscis, transversis ornata, ad extremitates vix producta, transversim striata, canalibus intus aurantiaco tinctis; apertura angusta, labio postice callo crenato instructo, labro intus crenulato-plicato.


Somewhat resembling A. pyrulina in colour, but is not so pyriform; the posterior callus of the inner lip is crenate, and there are three pale brown bands across the back of the shell; the orange marks in the beaks are also peculiar.

7. AMPHIPERAS (OVULA) PUDICA, A. Adams. A. testa ovata, ventricosa, carnea, albo-varicosa, lavi, canalibus brevibus, vix emarginatis; apertura angusta, alba; labio postice tuberculo elevato, subacuto instructo, antice producto, angulato, ad canalem uniplicato, labro intus crenulato, margine serrato.


A flesh-coloured bulliform species with the aperture and varix of the outer lip white and the margin of the outer lip serrated; it is
something like the *A. carnea* of Lamarck, but differs in the formation of the inner lip.

8. **Polydonta (infundibulum) Tritonis**, A. Adams. *P. testa elevato-conica, pseudo-umbilicata, viridi, albido subvariegata, anfractibus superne gibbosiusculis, cingulis transversis granorum ornatis, ultimo ad peripheriam angulato, basi concava, albida, concentrice striata, regione umbilicali infundibuliformi, columella superne tortuosa, margine tuberculato.*


This is a well-marked, greenish species, obscurely varied with white; the whorls are gibbose, the last acutely angulated and crenate at the periphery, and the base is white and concave.


A greenish-brown species, with regular transverse rows of beaded ridges, and with the lateral outline convex; the colour is of a uniform greenish brown.


A handsome species variegated with broad radiating red-brown markings, and with a conspicuous double row of tubercles at the sutures.

11. **Polydonta (infundibulum) Concinnum**, A. Adams. *P. testa conica, pseudo-umbilicata, lutescente, fusco vividoque variegatim picta, anfractibus planiusculis, cingulis transversis granorum, cingulis distantioribus, interstitiis liris moniliformibus ornatis, anfractu ultimo ad peripheriam angulato; regione umbilicali infundibuliformi, albida, basi levigata, cingulis concentricis, articulatis ornata; columella recta, margine simplice.*


This is a small but handsomely variegated species, with the false umbilicus infundibuliform and of a whitish colour, and with the base of the shell adorned with concentric zones articulated with dark brown.

As in *S. cancellata*, *S. imbricata*, and others of this group, there is a multispiral horny operculum; the whorls are finely clathrate, and the axis is not perforate.


A well-defined, thin, brown species, with transverse, elevated, nodulose lirae, and with the interior of the aperture vividly iridescent.


This is a species of great delicacy and beauty, most nearly allied to *S. haliotidea*, Sow., but with the umbilical region surrounded by a smooth white space and with the columellar margin reflexed and producing the appearance of an umbilicus.


In this species the columellar margin is reflexed and pearly, but the interior of the aperture, with the exception of the inner margin of the outer lip, is opaque white, with green spiral lines.

16. Stomatia decorata, A. Adams. (Pl. XXVIII., fig. 2.) *S. testa haliotidea, orbiculato-depressa, obtecte umbilicata, anfractibus spira bicarinatis, transversim sulcata ac striata, ad suturas oblique plicata, anfractu ultimo unicarinato; apertura intus alba, opaca, margaritacea; colore fusco-luteo, rubro maculato et punctato. Hab. —? Mus. Cuming.
This is a large and showy species somewhat resembling *S. rubra*, Lamk., in the character of the markings and colour; it is not tubercular like that species.

17. **Mitra Morchii**, A. Adams. (Pl. XXVIII., fig. 5.) *M. testa ovato-fusiformi, candida, spira acuminata, aperturam aequante, anfractibus octo, convexiusculis, transversim undique liratis, interstitiis crebre clathratis; apertura angusta, columella quinqueplicata, labro intus simplice.*


A large elegant white shell of the same form and with the same style of sculpture as *M. filosa*, and belonging to the subgenus *Can- cilla*. I have much pleasure in dedicating this fine species to M. Mörch, the talented author of the ‘Catalogue of Count Yoldi’s Shells,’ &c.


This species somewhat resembles *M. ferruginea*, Lamk., but the interstices between the transverse lirae are cancellated, and the lirae themselves have a filiform carina in the middle.


*Hab.* Ceylon (E. L. Layard, Esq.), *Mus. Cuming.*

This species, which seems to belong to the subgenus *Mitreola* has a smooth, glabrous appearance; but when examined with a lens, the whorls will be seen to be transversely punctato-striate.


This is a small, brown, horny species, having all the peculiarities of shell which characterize the genus *Volutomitra* of Gray.


This is a pretty little species, of a yellowish colour, neatly banded
with brown-black, and partaking of the characters of *V. corniculum*
of the Mediterranean, and other species forming the genus *Volutomitra* of Gray.


This peculiar-looking species belongs to Mr. Gray’s genus *Volutomitra*, which appears to have the lingual dentition of *Voluta*, with the shell resembling in form that of *Mitra*.


Most like *M. mirifica*, Reeve, but the nucleus is large, smooth and pink, the spire is shorter, and the last whorl is not so much produced and reflexed anteriorly as in that species; it belongs to the subgenus *Thalo*.

24. **Turricula Layardii**, A. Adams. *T. testa fusiformi-turrita*, spira acuminata, aperturam magis aequante, anfractibus decem, planulatis, ad suturas vie angulatis, supremis longitudinaliter costellatis, interstitiis clathratis, ultimo transversim lirato, interstitiis punctato-clathratis; apertura angusta, columella quadripli-

cata, plica postica duplicata, labro intus lirato; rufo-fusca, su-
turis pallidis, anfractum medio linea rubra.

*Hab.* Ceylon (E. L. Layard, Esq.). Mus. Cuming.

Most like *Mitra crebrilirata*, Reeve, but more subulate and slender; the spire is longer, the whors are less angulated at the sutures, and the columella is not so tortuous anteriorly. The species belongs to Swainson’s subgenus *Callithea*.

25. **Tudicla fusoides**, A. Adams. *T. testa fusiformi*, fulvescente, rufo-fusco variegata ac lentiginosa, spira acuminata, apice mammilata, transversim lirata, liris majoribus cum minoribus alternan-
tibus, fusco articulatis, anfractibus in medio angulatis, serie unica tuberculorum acutorum ornatis; apertura ovali, intus alba, columella plica valida antica instructa, canali producta, recta, antice sub-
recurva, labro intus valde lirato.


This species is fusiform, with a produced spire; the apex, however, is papillary, and the shell has all the characteristics which mark Bolton’s genus *Tudicla*, or *Pyrella* of Swainson.

26. **Tudicla recurva**, A. Adams. (Pl. XXVIII. fig. 4.) *T. testa fusiformi*, fulvicante, lineis transversis, rufescentibus ornata,
spira acuminata, apice mamillato, anfractibus transversim striatis, superne excavatis, in medio serie unica nodulorum instructis; apertura ovali, intus violascence, columella callosa, plica antica oblique instructa, canali producta, valde recurva, labro acuto, margine sinuoso, intus lurato.


In this species the whors are encircled with a series of nodules; the columella is smooth and callous, the canal strongly recurved, and the interior of the aperture is of a delicate violet colour.


Most like *P. sepimenta*, Le Guillou, but the callous spiral ridge is less prominent, the inner lip is without the dark mark, the columella is less produced anteriorly, the spire is obtuse and eroded, and the whors are rounded.

28. **Clypidella Baikiei**, A. Adams. (Pl. XXVIII. fig. 3.) *C. testa scutiformi, oblonga, depresso-conica, postice valde elevata, alba, lineis rufis, sagittiformibus radiatim picta, costis subnodulosis radiantis ornata, concentrice striata; margine simplice; orificio magnno, oblongo, postice valde inclinato.

Hab. —— ? Mus. Cuming.

This is a very beautiful species, with the foramen placed far behind, and the posterior margin greatly elevated. It is dedicated to my friend and collaborateur in the 'Manual of Natural History for the Use of Travellers,' Dr. Baikie, who is now exploring the waters of the Chadda.

29. **Conus connectens**, A. Adams. *C. testa turbinata, albida, aurantiaco sparsim tincta, spira vix elevata, apice submucronato, anfractibus angulatis, externe coronatis, supra excavatis ac radiatim striatis, anfractu ultimo lavigato, antice transversim sulcato; apertura angusta, labro vix arcuato.


This Cone appears to be most closely allied to *C. lithoglyphus*; it is whitish, clouded with pale orange; the spire is irregularly coronoated, and the whors are angulated.

30. **Sconsia Grayi**, A. Adams. (Pl. XXVIII. fig. 6.) *S. testa ovali, ventricosa, subtenui, sordide fulva, immaculata, spira brevi, anfractibus quinque, convexiusculis, transversim crebre sulcatis, longitudinaliter substratiatis; labio callo laxi, expanso obtecto, columella antice corrugato-plicata, labro margine subreflexo, postice ascendente, intus incrassato ac plicato, canali brevi, vix recurva.

Hab. —— ?
This species is thinner and more ventricose than *S. striata*; it is spotless, and more finely transversely grooved; the spire is less acute, the outer lip not so much thickened and inflexed, and plicate, not crenate, internally.


*Hab.* Lord Hood's Island. *Mus.* Haslar.

This species is richly painted with reddish-orange, disposed in a radiated manner round the outer margin, the rays extending towards the centre; the apex is hooked and more elevated than in the other species. The Linnean name of the genus is here used, but it has also been called *Umbella* by Chemnitz, and *Umbrella* by Lamarck.

32. **Stylifer Barronii**, A. Adams. *S. testa ovali, turrita, alba, nitida, semipellucida, apice mucronata, anfractibus septem, planis, postice angulatis, longitudinaliter oblique striatis; apertura oblongo-ovali, labro postice angulato, margine subincrassato.*


This species, remarkable for the angulated form of the whorls, is named after its discoverer, Mr. Charles Barron, who found it imbedded in the skin of a tropical species of *Asterias*, in which it had formed for itself a cystiform cavity.


*Hab.* Arctic Seas. *Mus.* Haslar.

This species appears to differ entirely in form from other known species, being more triangular and truncate posteriorly; the epidermis is peculiarly plicato-corrugate.

34. **Rhizochilus asper**, A. Adams. *R. testa umbilicata, ovato-turrita, alba, rufo sparsim tincta, anfractibus sex, longitudinaliter plicatis, superne excavatis, in medio angulatis, transversim liratis, liris asperulatis, ad plicas spinulosis; apertura ovali, canali brevi, vix recurva, labro intus lirato.*


This is a very beautiful white *Murex*-like species, with transverse spinulose liræ, and longitudinally plicate, angulated whorls.

35. **Rhizochilus (Coralliophila) radula**, A. Adams. *R. testa ovali, imperforata, candida, spira prominula, anfractibus convexit, longitudinaliter plicatis, transversim liratis, liris squamulosis, acutis, parvis asperulatis, interstitiis clathratis; apertura ovali, intus violascence, canali brevi, excurvata, regione umbilicali impressa, labro intus sulcato.*

This is a beautiful pure-white species, with the interior of the aperture of a pale violet, and with the entire surface covered with transverse rows of small acute scales, resembling the points of a rasp.

36. RAPANA (LATIAXIS) RHODOSTOMA, A. Adams. (Pl. XXVIII. fig. 1.) R. testa fusiformi-turrata, umbilicata, spira acuminata, rutila, albo-fasciata, anfractibus convexiusculus, longitudinaliter plicatis, transversim liratis, liris squamulis asperulatis, suture canaliculatis, anfractu ultimo antice coarctato, regione umbilicali carina spirali circumcincta; apertura ovali, intus carnicolore, canali producta, recurvata.


A handsomely coloured species, with a delicate pink aperture and channelled suture, partaking somewhat of the characters of Rhizochilus.

37. PISANIA HERMANNSENSI, A. Adams. (Pl. XXVIII. fig. 7.) P. testa oblongo-fusiformi, laxi, fulvicante, obscure albo-punctata, anfractibus septem tumidiusculus, ultimo antice transversim sulcato; apertura quadrato-ovali, columella postice lamina callosa instructa, labro expanso, antice dilatato, intus lirato.


A fine mitriform species, of a fulvous colour, with the outer lip rather expanded, and sulcated interiorly. We have named it after M. Hermannsen, who has contributed so materially towards the natural history of the Mollusca, by his valuable work on Bibliography and Synonyms.

38. PISANIA CRENILABRUM, A. Adams. P. testa fusiformi, spira exserta, brunnea, fascia lata spadiceo obscure articulata, anfractibus septem, supremis longitudinaliter plicatis, ultimo transversim sulcato; apertura ovali, breviuscula, labio callo nitido obtecto, labro extus subincrassato, margine crenulato.

Hab. West Indies. Mus. Cuming.

The spire in this species is longer than the aperture, the whorls are crossed with sharp elevated lines, and the margin of the outer lip is regularly crenulated.

39. PISANIA RETICULATA, A. Adams. P. testa fusiformi-oblonga, fulvescente, rufo fusque linea aut variegata, anfractibus septem, tumidiusculus, liris longitudinalibus et transversis undique creberrime reticulatis; apertura ovali, labio postice vix callosa, labro extus incrassato, intus lirato.


An elegant reticulated form, having very much the appearance of a Metula, but partaking chiefly of the peculiarities of Pisania.
2. Descriptions of three new species of Titmice.
By Frederic Moore.

Fam. Pipridæ, Vigors.

Subfam. Pariana.

Genus Orites, Mœhring.


Colour above grey, tinged with pinkish on the rump: before the eye and a broad streak over it black, passing to mixed black and grey on the nape; the centre of the head dusky reddish-isabelline; base of lower mandible, below the eyes, ear-coverts and sides of the neck white; chin and throat jet-black; abdomen pale pinkish-isabelline; wings dusky and having an isabelline tinge, the winglet and coverts of the primaries black; the primaries and secondaries fringed externally with grey; axillæ white; tail dusky, tinged with isabelline, the outer feathers graduated and obliquely tipped externally with white, the centre feathers margined with grey. Bill black; feet yellowish-brown.

Length 4½ inches; of wing 2¹⁄₄ ths; of tail 2½; the three outer feathers graduated, the middle pair 16 ths shorter than the next; bill to frontal plumes 2⁵⁄₁₀ ths; to gape 1½ ths; height from chin to front 2⁵⁄₁₀ ths; and tarse 1¼ ths of an inch.


This species is allied in colour to O. jouschistos, Hodgson, from which it may at once be distinguished by its broad, thick and higher bill, by its white cheeks and ear-coverts, and by its black chin and throat; and from O. erythrocephalus, Vigors, by its larger size, by the absence of the white superciliary streak, white chin, black ear-coverts, &c. On the habits of the latter species I beg to quote the following remarks made by Capt. Hutton, in ‘Journ. A. S. Bengal,’ 1848, p. 689. He says, “It is common at Mussooree, and in the hills generally throughout the year. It breeds in April and May; the situation chosen is various, as one taken in the former month at Mussooree at 7,000 feet elevation, was placed on the side of a bank among overhanging coarse grass; while another taken in the latter month at 5,000 feet, was built among some ivy turning round a tree, and at least 14 feet from the ground. The nest is in shape a round ball with a small lateral entrance, and is composed of green mosses warmly lined with feathers. The eggs are five in number, white with a pinkish tinge, and sparingly sprinkled with lilac spots or specks, and having a well-defined lilac ring at the larger end. Diameter 8⁶⁄₁₀ X 6⁵⁄₁₀ in.³
2. Orites (?) glaucogularis, Gould, MS.

Colour above greyish-ash; crown black, with a broad pale-buff line extending down the centre; forehead and lores isabelline; base of lower mandible, ear-coverts, chin, breast, and middle of belly buff colour; rump, upper tail-coverts, flanks and sides of belly pinkish-isabelline, brightening to ferruginous on the vent and under tail-coverts; throat of a silvery or bluish-ash; sides of the neck below the ear-coverts whitish; wings brownish-black, coverts and speculars quite black, primaries and secondaries margined with greyish-white; axillae and edge of shoulder white; tail black, the four outer feathers obliquely across both webs white. Bill black, and thick as in O. leucogenys; legs dark brown.

Length 4 ½ inches; of wing 2 ½ th; tail 2 ½; its outermost feather 1 inch shorter; bill to frontal plumes ½ ths, to gape ⅗ ths; and tarse ⅗ ths of an inch.


3. Orites (?) niveogularis, Gould, MS.

Forehead white, passing to buff-brown on the back of the head, nape, and fore-part of the back, and thence to the tail grey, tinged with isabelline on the rump; lores, over the eyes and ear-coverts black, passing into the brown on the nape; ear-coverts blackish anteriorly and brownish-buff posteriorly, and somewhat striped longitudinally with white; base of lower mandible, chin, throat, fore-part of breast, and sides of the neck to the nape behind the ear-coverts snowy-white, and contrasting with a brownish band which runs from the nape across the middle of the breast; the lower part of the breast with the abdomen pale pinky-isabelline passing to white in the middle of the belly: wings brown, margined with greyish-white, coverts and speculars blackish: tail dusky-black, margined externally with greyish-white, its outermost feathers white on the outer web. Bill black, longish, and slender as in O jouschistos, Hodgson; feet yellowish.

Length 4 ½ inches; of wing 2 ½; tail 2 ½ ths, its outermost feather ½ inch shorter; bill to frontal plumes ⅗ ths to ⅕ ths; tarse ⅗ ths of an inch.

Hab. N. India. In the collection of John Gould, Esq.

Remark.—These three new species, together with O. erythrocephalus, Vigors, and O. jouschistos, Hodgs., will, I believe, upon further examination, prove to form two separate divisions, distinct from the genus Orites; the species named erythrocephalus, leucogenys, and glaucogularis forming one division, and jouschistos with niveogularis the second.

Fam. Merulidæ, Vigors.
Subfam. Brachypodina, Swainson.


1. IXULUS OCCIPITALIS, Blyth.
_Siva occipitalis_, Blyth, J. A. S. Beng. xiii. p. 937. (1844.)
_Ixulus occipitalis_, Blyth, J. A. S. Beng. xiv. p. 552. xvi. p. 448;
Cat. B. Mus. A. S. Beng., p. 100.
_Hab._ Sikim, Nepal. (No. 955 Hodgson’s Catalogue.)
“Colour dull brownish olive-green above, the shafts of the dorsal and scapular feathers pale; below much lighter and rufescent, the throat whitish, the feathers of the fore-neck having dark shafts: crown, nape, and lower tail-coverts ferruginous-brown, which also tinges the flanks; coronal feathers considerably elongated, and the occiput beneath the crest white; bill black; legs yellowish-brown.

“Length about 5 inches; of wing 2½; tail 2; bill to gape ⅛ths; and tarse ⅜ths of an inch.”

A single specimen only of this species was collected in Nepal by B. H. Hodgson, Esq.

2. IXULUS CASTANICEPS, Moore, n. sp.

Colour above dull brownish-olive, the shafts of the dorsal and scapular feathers pale; crown dark-chestnut, and subcrested, the frontal plumes short and scaly, and having pale margins, the occiput paler chestnut; behind the eyes whitish; ear-coverts chestnut; wings blackish, the secondaries and tertaries with pale shafts; axillae white; tail black, the three outer feathers graduated, and tipped obliquely externally with white, the next white at the extreme tip only, and the rest entirely black; the whole underparts of a dirty ruddy-white colour; bill reddish-brown; legs yellowish.

Length 5½ inches; of wing 2 3/10; tail 2 1/4; its outermost feather ⅝ths less; bill to front ⅜ths; to gape ⅛; and tarse ⅜ of an inch.

_Hab._ Afghanistan.

This species is at once distinguished by the white tips to the tail feathers.


3. STACHYRIS RUFICEPS, Blyth.
_Stachyris ruficeps_, Blyth, J. A. S. Beng. xvi. p. 452 (1847);
The rufous-headed _Stachyris_.
_Hab._ Sikim; Nepal. (No. 923, Hodgson’s Catalogue.)

“Allied in form and size to _St. pyrrhops_, but having the crown light ferruginous, and the chin and middle of the throat white, with
slight black central streaks to the feathers; rest of the upper parts plain olive, and of the lower whitish, with a fulvous tinge on the sides of the neck and breast" [in some specimens the crown and nape are bright ferruginous, and the whole under-parts pale ferruginous]. Bill and legs pale horn-colour.

Length 4½ inches; of wing 2½ th; tail 2 inches; bill to frontal plumes 1/0 ths; to gape ½ ths; and tarse 3/4 ths of an inch.

Fam. Pipridæ, Vigors.
Subfam. Leiothrichina.
Genus Leiothrix, Swainson.

4. Leiothrix cinerea, Blyth.

The grey Leiothrix.
Hab. S. E. Himalaya; Nepal. (No. 671, Hodgson's Catalogue.*)
“Colour olive-grey above, tinged with green; beneath white, tinged on the flanks with ashy, and showing some yellow along the middle of the abdomen; a broad yellowish-white supercilium, and over this a black one; the coronal feathers margined with black, and the cheeks mingled black and white; orbital feathers subdued white; wings and tail without markings, the tertiaries edged with grey, and the secondaries with very faint dull yellowish. Bill yellowish-horny above, paler beneath, legs yellowish.”
“Length 4½ inches; of wing 2½; tail 1½; bill to gape nearly ½ ths; and tarse 3/4 of an inch.”
Allied in form and size to L. castaniceps.

4. Notes on the Habits of Indian Birds. Part IV.
By Lieut. Burgess.

Family Sylviadæ.

Genus Thamnobia.

Thamnobia fulicata. Indian Robin.
This bird is well known in the Deccan, and is found not only about villages, walls and outhouses, but is also common on low stony hills. Dr. Jerdon says that “its familiar habits have gained for it its name of Indian Robin.” It breeds during the months of March, April and May, building its nests in holes of walls and rocks, as also

* No. 887 of Mr. Hodgson's Catalogue was attached to this bird, which number was previously used for Loxia himalayana; the above number being unoccupied, it is retained for the present species.
in hollows under tussocks of grass. I subjoin some notes on the subject:—“May 9, 1850. When passing outside the wall of a town, an Indian Robin flew off the wall and hovered before me, uttering a sharp hissing cry. Knowing by her manner that she had a nest near, I searched in the wall and found the nest, composed of rotten grass and straw, and some threads of woollen cloth; the nest contained three young ones, quite unfledged; their skin was of a black-lead colour.”—“March 19, 1851. Found in a hole in the rocks the nest of the Indian Robin, containing two eggs.”—“March 27, 1851. Found the nest of the Robin, containing two eggs, built at the foot of a little tuft of grass, in a hole amongst the roots.”

The egg of this bird is of a very pale dusky blue spotted all over with light brown, and a few purplish spots here and there; length rather more than 5/6ths of an inch, by 5/6ths in width.

Dr. Jerdon says: “I have twice seen the nest of this bird; once, built among a heap of large stones raised from a bourney, and the bird made its nest during the time the well was being blasted, and continued the process of incubation till the young ones were hatched, when it was accidentally destroyed. On the other occasion it had built its nest in a hole inside the wall of a house. It has four eggs, light dusky bluish colour, spotted with purplish brown.”

**Genus Prinia.**

**Prinia inornata**, Sykes. **Common Wren Warbler.**

I believe that the nest and egg herewith forwarded, are the nest and egg of this little Warbler, though, not having shot the bird from her nest, I cannot say so positively. I think, however, that Dr. Jerdon’s observation, though it differs in not mentioning the spots on the eggs, partly corroborates it. He says: “I once procured the nest of this species; it was open at the top, neatly enough made of grass well interwoven, without any lining, and fixed in a low bush very near the ground; it contained four blue eggs.”

The nest which I forward was found in the midst of some low jungle shrub, about a foot from the ground, during the monsoon. The egg is a little less than 5/6ths of an inch in length, by rather more than 4/5ths in width, of a rich blue ground, blotched and spotted with two shades of red-brown and pale purple.

**Tribe Conirostres.**

**Family Corvidæ.**

**Subfamily Corvinæ.**

**Genus Corvus.**

**Corvus splendens**, Vieill. **Common Indian Crow.**

All the noise and impudence of the tribe appear to be concentrated in the Common Indian Crow. They abound, I believe, in every part of the Indian continent; and when to their number is added their
thievish character, some idea may be formed of the nuisance they are. There is, however, a redeeming point in their character, viz. that they are very efficient scavengers. An officer of the Bombay army told me an anecdote illustrative of their sagacity, which he himself witnessed. Some crows had been sitting near a young dog, watching him whilst engaged with a bone. Having apparently concerted the plan, one of them alighted, stepped up and took a peck at the dog’s tail; the dog, irritated, made a snap at the bully; on which a comrade, who appears to have been ready, made a dash and went off with the prize. He told me that he had seen another crow coolly walk off with a bit of bread, having actually taken it out of the hand of a child who was eating it. No one who has not been in India can form an idea of the noise which these crows make. In the morning, in Bombay, the tops of some of the bungalows are covered with them, squabbling and chattering, and it is reported that these black gentry are not proof against the seducing influence of the pots of toddy hanging up in the cocoa-nut trees. The juice of these trees is harmless before the sun is hot, but if taken after, has a decidedly inebriating effect. The common Crow begins to build at the end of April, forming its nest of sticks. It lays four eggs, of a dull greenish-blue, blotched and spotted with greenish-brown and grey, $\frac{1}{10}$ th in. in length by rather more than 1 inch in width. The eggs, however, differ in size and colour.

**Corvus culminatus, Sykes. Large Black Crow.**

Less numerous, and of less intrusive and impertinent habits than the last. It breeds at the same time, and lays the same number of eggs as the Common Crow of India. The eggs are of a pale blue dashed and spotted with olive and grey, 1 inch and rather more than $\frac{3}{10}$ ths of an inch in length, by 1 inch and rather more than $\frac{3}{10}$ ths of an inch in width. The eggs of this Crow also vary in size and colour.

**Family Sturniæ.**

**Subfamily Sturninæ.**

**Genus Pastor.**

**Pastor tristis, Temm. Common Myna.**

This sprightly talkative bird is common in Western India. It lives in small flocks, and is a close attendant on cattle, walking amongst them with a cheerful upright gait, its head inclined, now on this side now on the other, watching for insects, all the while talking and muttering with its peculiarly smooth and oily note. It is a great favourite with the natives, who keep numbers of them in cages. The Myna breeds during the month of May, making its nest in the holes of trees and buildings, also in stacks and ricks. It lays as many as six eggs, of a pale blue colour, 1 inch and rather more than $\frac{3}{10}$ ths of an inch in length, by $\frac{3}{10}$ ths of an inch in width. Eggs out of the same nest differ in size.
July 11, 1854.

J. S. Gaskoin, Esq. F.L.S., in the Chair.

The following papers were read:

1. **Descriptions of Twenty-three species of Helicea, from the Collection of H. Cuming, Esq.** By Dr. L. Pfeiffer.

1. **Helix pagodula**, Pfr. *H. testa imperforata, gradato-conoidea, solidula, opaca, striatula et lineis impressis nonnullis obsoletis, spiralibus sculpta, sub epidermide decidua fulva albida; spira conoidea, apice obtusula; anfract. 6½, superis planis, 3 ultimis carina compressa, acuta, subelevata munitis, ultimo subrecedente, basi parum convexo; apertura subdiagonalii, angulato-lunari; perist. simplice, marginibus distantibus, supero brevi, recto, basali ad insertionem subdilatato, adnato.**

Diam. maj. 15, min. 14, alt. 9 mill.

_Hab._

2. **Helix bella**, Pfr. *H. testa perforata, globoso-turbinata, tenuiscula, confertim striata, rufo-fusca, nitida; spira convexo-conica, subtilissime mucronulata; sutura levi, candido-marginata; anfr. 5½ convexiusculis, ultimo non descendentem, spiram aqueante, pallidiore, fascia lata albida cincto, basi inflato, circa perforationem pollido; apertura parum obliqua, truncato-ovali, longiore quam lata; perist. recto, margine dextro ab insertione statim descendente, columellari substricto, declivi, superne breviter triangulatim dilatato.**

Diam. maj. 40, min. 34, alt. 28 mill.

_Hab._ Moluccas.

3. **Helix Yorkensis**, Pfr. *H. testa subobtecte perforata, turbinato-depressa, tenui, capillaceo-striata, sericea, rubello-cornea; spira convexusculo-conoidea, vertice subtili; sutura levi, simplice; anfr. 5 convexiusculis, sensim accrescentibus, ultimo non descendentem, peripheria subangulato, basi nitidiore, medio impresso; apertura diagonalii, rotundato-lunari, intus rubello-margariatae; perist. simplice, recto, marginibus subconcinventibus, columellari supra perforationem calloso, dilatato.**

Diam. maj. 10, min. 8½, alt. 5 mill.

_Hab._ Cape York, N. Australia.

4. **Helix cumulus**, Pfr. *H. testa perforata, turbinato-semiglobosa, tenui, levissime striatula, nitida, fulvo-cornea; spira convexo-conoidea, vertice subtili vix prominulo; sutura levi, sub-marginata; anfr. 5½ vix convexiusculis, lente accrescentibus, ultimo non descendentem, peripheria subangulato, basi parum convexo; apertura diagonalii, lunari; perist. simplice, recto, mar._

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ginibus distantibus, columellari leviter arcuato, superne subdilatato-refixo.

Diam. maj. 10, min. 9, alt. 5 mill.

Hab. Manning River, E. Australia.

5. Helix Ophelia, Pfr. H. testa perforata, turbinato-depressa, tenui, sub lente irregulariter capillaceo-striata,aud nitida, diaphana, cornea, strigis angustis rufulis notata; spira convexiusculo-conoidea, vertice subtili, acutiusculo; anfract. 5 planiusculus, subexsertis, sensim accrescentibus, ultimo non descendente, subangulato, basi planiuecolo; apertura obliqua, rotundato-lunari, intus nitida; perist. simplice, recto, margínibus vix convergentibus, basali strictiusculo, columnellari declivi, juxta umbilicum angustissimum, pervium breviter reflexo.

Diam. maj. 8, min. 7, alt. 4½ mill.

Hab. Australia?

6. Helix zosterophora, Pfr. H. testa subclause perforata, conoideo-depressa, solida, oblique striatula et lineis spiralibus confertissimis sub lente sculpta, albida, cingulo 1 castaneo ad peripheriam, secundo fusuo-aurantiaco supra ilid et fascia lata fusca in basi ornata; spira conoidea, acutiuscula; anfract. 6 convexiusculis, lente accrescentibus, ultimo non descendente, rotundato; apertura vix obliqua, transverse auriformi; perist. recto, marginie supero brevi, dextro perarcuato, columnellari declivi, leviter arcuato, superne caloso, dilatato, adnato.

Diam. maj. 34, min. 29, alt. 19 mill.

Hab.——

7. Helix villaris, Pfr. H. testa perforata, convexo-depressa, tenuisculus, levigata, oleoso-nicante, albido-cornea; spira brevissime conoidea, vertice subtili; sutura levi, marginata; anfract. 5½ convexiusculis, sensim accrescentibus, ultimo non descendente, peripheria rotundato, basi parum convexo; apertura obliqua, lunari, intus subnarguritacea; perist. simplice, recto, marginibus vix convergentibus, columnellari declivi, superne caloso, breviter reflexo.

Diam. maj. 10½, min. 9½, alt. 5½ mill.

Hab. Cape York, Torres Strait, Lizard Point, Australia.

8. Helix calculus, Pfr. H. testa latissime umbilicata, discoidea, tenui, striatula, corneo-lutescente, rufulo obsolete strigata; spira plana, subimmersa; anfract. 8½ convexis, angustissimis, ultimo non descendente, altiore quam lato, superne et basi subangulato; umbilico conoidea, 3 d i a m e t r i occu p a n te; apertura obliqua, erectolunari; perist. simplice, recto, marginibus distantibus, basali perarcuato.

Diam. maj. 10, min. 9, alt. 3½ mill.

Hab.——?

9. Helix horiomphala, Pfr. H. testa umbilicata, lenticulari, tenui, striis obliquis et spiralibus sub lente confertissime decussata,
vix nitidula, diaphana, pallide cornea; spira vix elevata, sub-conoidea; sutura lineari; anfract. 6\frac{1}{2} planiusculis, sensim accrescentibus, ultimo non descendente, peripheria acutissime carinato, basi paulo convexiore, carina secunda in umbilico lato, cyathiformi continuata munito; apertura perobliqua, tetragona; perist. simplici, recto, marginibus subparallelis, dextro subsinuato, basali leviter arcuato, angulum cum columellari formante.
Diam. maj. 25, min. 22, alt. 6 mill.


10. Helix goniomphala, Pfr. H. testa umbilicata, conoidea, solida, oblique ruguloso-striata, fulva; spira convexo-conoidea, obtusiuscula; sutura plana, marginata; anfract. 6\frac{1}{2} planis, lente accrescentibus, ultimo superne convexiore, non descendente, peripheria subcompressae et acutie carinata, basi planiuscula, circa umbilicum perangustum, perivium distincte angulato; apertura perobliqua, depressae securoidi; perist. recto, marginibus distantibus, supero simplice, antrorsum arcurato, basali calloso, in-crasato, leviter arcurato, columellari angusto, breviter ascendent. Diam. maj. 20\frac{1}{2}, min. 19, alt. 9\frac{1}{2} mill.
Hab. —— ?

11. Helix funiculata, Pfr. H. testa umbilicata, depressa, tenuiuscula, undique subruditer granulata, nitidula, rufa; spira brevissime conoidea, obtusa; sutura subcanaliculata; anfract. 6 convexiusculis, lente accrescentibus; ultimo rotundato, supra peripheriam fascia alba et carina funiformi cincto, antice descendente, basi inflato, circa umbilicum mediocrem, profundum subcompresso; apertura perobliqua, subangulato-lunari, intus margaritacea; perist. simplice, marginibus vix convergentibus, supero recto, basali breviter reflexo, columellari superne dilatato, fornicate patente.
Diam. maj. 29, min. 24, alt. 14 mill.

Hab. Torres Strait, Australia.

12. Helix curvidens, Pfr. H. testa imperforata, globoso-conoidea, solidula, undique minute granulata, alabastra; spira semiglobosa, vertice obtuso; sutura mediocri; anfract. 4 sensim accrescentibus, vix convexiusculis, ultimo antice vix descendente, peripheria carina subfuniformi, rugulosa, alba cincto, basi convexiore; apertura perobliqua, subtrigono-lunari; perist. simplice, marginibus distantibus, dextro recto, columellari calloso, perdilatato, introrsum dente elongato, curvato munito.
Diam. maj. 28, min. 24, alt. 17 mill.

Hab. —— ?

13. Helix Malaccana, Pfr. H. testa aperte perforata, depressa, tenui, leviata, irregulariter pustuloso-punctata, castaneo-cornea; spira vix elevata; vertice subtili; sutura distincte marginata; anfract. 5\frac{1}{2}, vix convexiusculis, sensim accrescentibus, ultimo latiore, non descendente, subdepressa, peripheria rotundato; apertura parum obliqua, late lunari; perist. simplici, recto, marginibus
subconvergentibus, columellaribreviter descendente, superne anguste reflexo.
Diam. maj. 15½, min. 13, alt. 7 mill.
Hab. Province of Quedo, Straits of Malacca (Capt. A. Martin).

14. **Helix carneola**, Pfr. *H. testa angustissime umbilicata, depressa, tenui, lavigata, nitida, pellucida, rubello-cornea; spira brevissime conoidea, vertice subtili, subprominulo; sutura canalicularata, submarginata; anfract. 6, convexiusculis, lente accrescentibus, ultimo non descendente, peripheria obsolete angulato, basi planiusculo; apertura obliqua, lunari; perist. simplice, recto, marginibus distantibus, basali leviter arcuato, columellae superne dilatato, patente, perforationem perviam non occultante.
Diam. maj. 11½, min. 10, alt. 5 mill.
Hab. Ceylon.

15. **Helix solidula**, Pfr. *H. testa subobtecte perforata, conoideo-semiglobosa, solidula, oblique costulato-striata, fulva; spira convexo-conoidea, vertice subtili, acutiusculo; sutura submarginata; anfract. 5½, vix convexiusculis, sensim accrescentibus, ultimo non descendente, compresse et acute carinato, basi lineis spiralis obsolete notato, medio impresso; apertura diagonalis, angulato-lunari; perist. recto, marginibus distantibus, dextro recto, acuto, columellae callosa, incrassata, perforationem angustissimam fere claudente.
Diam. maj. 12, min. 11, alt. 7 mill.
Hab. —?

16. **Helix crassidens**, Pfr. *H. testa imperforata, subglobosa, solida, ponderosa, superne confertim arcuato-striata, unicolore atro-fusca; spira semiglobosa, obtusa; anfract. 5, vix convexiusculis, ultimo antice deflexo, peripheria obsolete angulato, basi subplanato, radiato-striato, nitido; apertura diagonali, trisinuato-lunari; perist. crasso, ceruleo-albido, marginibus callo crasso, dentem validum, triangularem, transversum gerente junctis, dextro brevi, vix reflexiusculo, basali dilatato, intus dentibus 2 subaequalibus munito.
Diam. maj. 16½, min. 15, alt. 15 mill.
Hab. Martinique.

17. **Helix subvitrea**, Pfr. *H. testa umbilicata, trochiformi, solidiuscula, oblique distincte striata, striis spiralis tenuissimis confertim decussata, sericina, lutescenti-hyalina; spira convexoconica, obtusa; anfract. 6, convexiusculis, lente accrescentibus, carina funiformi, exsera munitis, ultimo antice vix deflexo, infra carinam medianam convexitore, antice turgidulo, juxta umbilicum angustam subcanaliculato; apertura perobliqua, subtriaangulari-lunari; perist. albo, nitido, marginibus remotis, dextro expan- siusculo, columellaris substricto, extus reflexo, intus subdentato, ad insertionem in laminam fornicatam vitream dilatato.
Diam. maj. 20½, min. 19, alt. 15 mill.
Hab. Moluccas.
18. **Helix Stimpsoni**, Pfr. *H. testa anguste et pervie umbilicata; depressa, solidiuscula, confertim striatula, oleoso-nicante, rufo cornea; spira brevissime conoidea; anfract. 5½ planiusculis, sensim accrescentibus, ultimo non descendente, turgido, peripheria obsoletissime angulato, basi distinctius striatulo; apertura obliqua, rotundato-lunari, intus nitida; perist. calloso, albo, undique bre-viter reflexo, marginibus conniventibus, dextro subhorizontaliter abente, columellari subarcuato, sursum dilatato. Diam. maj. 15, min. 13, alt. 8 mill. 

**Hab.** China.

19. **Helix Martini**, Pfr. *H. testa umbilicata, conoideo-depressa, tenui, oblique confertim subgranulato-striata, vix sericea, pallide fulva; spira breviter conoidea, vertice subtillis, obtusula; anfract. 7–8, planiusculus, lente accrescentibus, ultimo turgido, antice non descendente, supra peripheriam subacute carinato; umbilico angusto, non pervio; apertura diagonalis, oblique lunari, intus margaritacea; perist. albo, marginibus callo tenuissimo junctis, dextro breviter expanso, superne subangulatum producto, basali paulo latius revoluto, juncta umbilicum sinuatu, subdilatato. Diam. maj. 35–43, min. 31–37, alt. 16–21 mill. 

**Hab.** Pedang (Capt. A. Martin).

20. **Helix appendiculata**, Pfr. *H. testa umbilicata, globosodepressa, solidula, oblique striata, fulvo-lutea, fasciis variis nigro-castaneis ornata; spira breviter conoidea, vertice subtillis, obtusula; anfract. 6, vix convexis, ultimo rotundato, antice deflexo; apertura diagonalis, rotundato-lunari, intus margaritacea; perist. simplice, atro-violaceo vel albo, marginibus subconvergentibus, dextro expanso, basali reflexo, columellari supra umbilicum mediocrem in appendiculam triangularem, planam, superne adnatum dilatato. Diam. maj. 41, min. 34, alt. 24 mill. 

**Hab.** Australia.

21. **Streptaxis conoidea**, Pfr. *Str. testa anguste et pervie umbilicata, subregulariter conoidea, solidula, superne oblique costulato-striata, virenti-alabastrina; spira gradato-conoidea, apice obtusa; anfract. 7, convexis, lente accrescentibus, hinc inde carinato, ultimo peripheria subangulato, antice ulterius deviante, basi planiusculo, lavigato, nitido; apertura diagonalis, lunari, intus margaritacea; perist. undique breviter revoluto. Diam. maj. 18, min. 16, alt. 10 mill. 

**Hab.** Province of Quedo, Straits of Malacca (Capt. A. Martin).

22. **Streptaxis Fortunei**, Pfr. *Str. testa profunde arcuartorimata, subperforata, depressa ovata, tenia, pellucida, hyalina; spira laterali, apice subconoidea; anfract. 6, convexiusculus, lavigatis, ad suturam striatulus, penultimo varicoso, gibbosus, ultimo antorosum deviante; apertura perobliqua, late lunari; pariete aperturali lamella mediocri intrante munito; perist. calloso,
albo, undique expanso et reflexo, margine dextro superne repando, medio crassiore.
Diam. maj. 9, min. 6½, alt. 5½ mill.
Hab. Shanghai, China (Mr. Fortune).

23. Achatina flexuosa (Glandina) Pfr. A. testa subfusiformi-oblongo, solida, longitudinaliter flexuose plicato-striata, alba, epidermide fulva, strigis angustis castaneis irregulariter notata induta; spira conica, obtusa; sutura sublaceră; anfract. 7, vix convexiusculis, ad saturam subcrenatis, ultimo antice defexo, spiram superante, basi attenuato; columella arcuata, ad basin apertura elongato-semioculis abrupte truncata; perist. obtuso, margine dextro repando, medio antrorsum dilatato.
Long 53, diam. 20 mill.
Hab. — ?

2. Descriptions of Seven Species of Cyclostomacea and Auriculacea, from Mr. Cuming’s Collection.
By Dr. L. Pfeiffer.

1. Cyclostoma castum (Cyclostomus?), Pfr. C. testa umbilicata, globoso-turbinata, tenui, striis elevatis obliquis et spiralibus confertissime reticulata, vix nitidula, candida; spira breviter turbinata, vertice truncatulo; anfract. 5, convexis, rapide accrescentibus, ultimo rotundato, fascia 1 obsoleta fulva infra medium signata; umbilico profundo, ⅔ diametri fere aequante; apertura obliqua, subcirculari, intus concolore, nitida; perist. mediocriter exanco et revoluto, margine columellari in laminam latissimam, superne adnatum, umbilicum semioccultantem dilatato.
Operc. — ?
Diam. maj. 28, min. 22, alt. 16 mill.
β Anfractu ultimo antice longe soluto, dorso carinato.
Hab. Madagascar.

2. Cyclostoma virgo (Cyclostomus?), Pfr. C. testa umbilicata, turbinato-globosa, depressiuscula, tenui, confertim striata et liris spiralibus (quorum singulis validioribus) asperato-granulata, haud nitente, diaphana, albido-fulvescente, castaneo trifasciata; spira breviter turbinata, vertice submamillari; anfract. 5, convexis, rapide accrescentibus, ultimo rotundato; umbilico profundo, ⅔ diametri vix superante; apertura obliqua, subangulato-circulari, intus nitida; perist. dilatato, undique subrectangule patente, nitido, albo, castaneo-maculato, superne subforicato, margine sinistro crenulato, supra umbilicum in laminam magnam superne adnatum dilatato. Operc. — ?
Diam. maj. 26, min. 21, alt. 15 mill.
Hab. Madagascar.
3. Cyclostoma chloriticum (Cyclostomus?), Pfr. C. testa umbilicata, turbinato-depressa, tenuiuscula, oblique striatula et liris confertis, inaequalibus, basi validioribus cincta, umbilico, albida, fasciis pallidissime lutescentibus ornata; spira brevi, submucronata; anfract. 5, convexis, rapidre accrescentibus, ad suturam depressis, marginati, ultimo rotundato, non descendente; umbilico profundo, \( \frac{3}{4} \) diametri subcequante; apertura obliqua, subcirculari, intus nitida; perist. simplice, marginibus fere contiguis, supero sinuato, vix expansiisculo, basali reflexo, columnari dilatato, fornicate patente. Operc. —?
Diam. maj. 34, min. 27, alt. 16 mill.
Hab. Madagascar.

Long. 16, diam. 11 mill.
Hab. Comoro Islands, Africa.

5. Melampus duplicatus, Pfr. M. testa imperforata, oblonga, solida, arcuato-striata, sub epidermide decidua, virenti fulva alba; spira brevi, conoidea, obtusula; spira obsoleta; anfract. 5–6, contiguis, ultimo \( \frac{3}{4} \) longitudinis formante, supra medium inflato, basi parum attenuato; apertura verticali, semielliptica, basi canaliculata; pariete apertura callo nodiformi et infra eum plica lamelliformi transversa munita; columna plicis 2 obliquis, paralleli duplicata; perist. simplice, margine dextro leviter arcuato, intus subcalloso.
Long. 10, diam. 5\( \frac{1}{2} \) mill.
Hab. —?

6. Auricula dactylus, Pfr. A. testa imperforata, ovato-oblonga, solida, longitudinaliter ruditer striata, infra suturam sulcis validis granulata (striis spiralis in reliqua parte levibus), olivaceo-fusca, nitida; spira inflato-conica, apice obtusula, crosa; anfract. 7, superis planis, lente accrescentibus, penultima lato, inflato, ultimo non descendente, \( \frac{3}{4} \) longitudinis fere aequante, supra medium obsolete angulato, basi vix attenuato; apertura vix obliqua, sinuato-semielliptice; plicis parietalibus 2 albis, superiore nodiformi, altera valida, obliqua; plica columnari vix torta, fere verticali, introrsum subsulcata, extus ad marginem producta; perist. crasso, recto, margine dextro superne valde sinuato, intus perincribato, columnari dilatato, plano, adnato.
Long. 52, diam. max. 25 mill.
Hab. Borneo.
This species and the following one are allied to A. Jude, L.
7. **Auricula Chinensis**, Pfr. *A. testa subrimata, ovato-oblonga, solida, striis longitudinalibus et spiralibus minute granulata, fulvida, castaneo-striata; spira conica, obtusa; sutura lineari, sublacerata; anfract. 6, planiusculis, ultimo non descendente, 2/3 longitudinis subaequante, basi rotundato; apertura verticali, sinuato-semiovali, paulo supra basis latissima; plicis parietalibus 2, superiori nodiformi, altera valida, compressa, subobliqua, callo longitudinali pliciformi extus subjunctis; plica columellari valida, tecta; perist. recto, marginibus callo tenui junctis, dextro intus valde labiato, superne sinuato, columellari crasso, fornicatim reflexo, adnato.

Long. 28, diam. 14 mill.

_Hab._ China.

3. **Descriptions of Two New Species of Land Shells.**

_By J. S. Gaskoin._

_(Mollusca, Pl. XXIX.)_

1. **Bulimus bivaricosus.** (Pl. XXIX. fig. 4). *Testa oblongo-ovata, turrita, solida, longitudinaliter rugato-striata, castaneofulva; apice obtusiusculo; anfractibus 6-7 subventricosis, ad suturas depressiusculis, ultimo 2/3 subaequante testae longitudinalis; apertura ovali, postice angulata, intus nitida rubeo-castanea, varicibus valde prominentibus duobus, uno ab antica parte apertura infra fornicem columellae extenso, altero medio labri externi ad antican partem apertura efformante; peristomate continuo, parte libera crassa, extus valde marginata albicante-que, columellari incrassata, juxta umbilicum reflexa; umbilico subobsoleto.

Long. 2 2/10, lat. 1 poll.

_Hab._ in insula Lord Howe.

2. **Helix Sophle.** *Testa subdiscoidea, tenni, diaphana, parum umbilicata, fulvescente, vix nitidula; spira circa apicem rufescence, apice obtusa, anfractibus 5-6 convexiusculis, celeriter accrescentibus, ultimo antice paululum descendente, striis elevatis spiralibus munitis, lineis tenuissimis undulatis irregulariter transversim decussatis; basi rotundata, confertim spiraliter levius striata; apertura obliqua, semiovali, intus pallidiore, nitidissima; peristomate simplice, recto, ad umbilicum reflexo.

Alt. 3/10, diam. maj. 1 3/8, diam. min. 1 1/10 poll.

_Hab._ in insula Lord Howe.
July 25, 1854.

John Gould, Esq. F.R.S., in the Chair.

The following papers were read:—

1. Description of a New Species of Regulus, from Madeira. By Edward Vernon Harcourt.

"Mr. Gould exhibited two specimens of a new species of Regulus, from Madeira, belonging to Edward Vernon Harcourt, Esq., and at the request of that gentleman gave them the name of Regulus Maderensis. Mr. Gould remarked that there could be no doubt of their specific value, as they not only differed from all the other European species, but from all the known species of the group. The following notes from Mr. Harcourt are given in his own words.

"This bird, which is a true Regulus, differs from all the three European species; namely, cristatus, ignicapillus and modestus. It may be described as follows:—

"Regulus Maderensis.

"Beak black; forehead white, the white extending backwards and forming a small band; base of the crest black, the crest bright orange, differing in this respect from the ignicapillus, the crest of which is fiery red; from the beak to the eye a small black band, not extending beyond the eye, in which respect it also differs from ignicapillus; upper part of the neck and the whole of the back olive-green, with a bright mark of orange-yellow on each side of the neck; greater wing-coverts brownish-black, and tipped with buffy-white, forming a band; primaries brownish-black, with a narrow external edging of green; secondaries similar, but with a broad velvet black mark at the base; tail-feathers brownish-black, tinged with greenish-yellow on the outer web; chin and throat white slightly tinged with green; under surface white tinged with yellowish-green; under wing-coverts white; legs pale brown.

"Total length, 4 inches; from the carpus to the end of the wing 2\(\frac{3}{4}\) inches; tarsus, \(\frac{3}{4}\) inch.

"Believing so small a bird to have but a limited range, and not finding it recorded among the birds of the Canary Islands by Webb and Berthelot, or among the birds of Africa, I am induced to regard it as new, and have ventured to propose for it the name of Regulus Maderensis.

"The sex of the birds I examined was not noted; but from the brightness of their colours, which surpassed those of the ignicapillus, they were probably males.

"This species lives in the laurel forest and in the urze (or tree heaths) in the northern and more unfrequented parts of the island of Madeira. I have frequently seen it on the wing, but could never get near enough to hear its voice."
2. Description of a New Species of Momotus.

By John Gould, F.R.S. etc.

Mr. Gould exhibited a species of Momotus, which he had had in his collection for many years, and which he believed to be entirely new to science. It is most nearly allied to the Momotus Mexicanus, but differs from that species in its much larger size, in the deeper chestnut-colour of the head, and in having a greyish-white mark under the eye, in lieu of the rich blue one observable in M. Mexicanus. These differences induce Mr. Gould to consider it to be distinct; in which opinion he was greatly confirmed by finding other examples, precisely similar in colour, in the fine collection of the late Earl of Derby, now in Liverpool. He therefore proposed for it the name of

Momotus castaneiceps.

Crown of the head very deep chestnut, gradually blending on the back of the neck into the reddish grass-green of the back and wing-coverts; primaries and secondaries bluish green on the external web and next the shaft on the internal web, the remainder of the feathers being brownish-black, largely margined with buffy-yellow at the base, and with black shafts; upper tail-coverts and tail bluish-green, the latter with black shafts, and the spatulate terminations of the two centre feathers largely tipped with black; lores and lengthened ear-coverts black, the latter bounded above by a narrow line of blue; beneath the eye a narrow streak of greyish-white, bounded above by a finer streak of blue; under surface very pale green, becoming of a still paler and more buffy hue on the vent; on the centre of the breast a few lanceolate pendent feathers of a deep velvety black, narrowly bordered with pale blue; bill black; feet brownish-black.

Total length, 15½ inches; bill, 2; wing, 5½; tail, 8½; tarsi, 1½.

Hab. Guatemala.

3. On the Anatomy of the Great Anteater

(Myrmecophaga jubata).

By Professor Owen, F.R.S., V.P.Z.S.

Professor Owen read a paper on the Anatomy of the Great Anteater (Myrmecophaga jubata). The animal dissected was a full-grown female; it was received at the Gardens September 29, 1853, and died July 6, 1854. It weighed 62 lbs.; the weight of the brain was 3 oz. avoir. The nipples were two in number, post-pectoral in position; the vulva and vent opened by a common cloacal aperture. The integument was thick; well-developed dermal muscles attached it to parts of the skeleton: the extent and attachments of these were described. The position of the viscera on opening the abdominal cavity was detailed. The intestinal canal is supported by one broad fold of peritoneum, as in reptiles. A long narrow continuous gland extends along the base line of the mesenteric part of the fold, and a parallel series of detached glands along the mesocolic part. Other
modifications of the peritoneum were described in relation to the support and connection of other viscera. The stomach consisted of two parts, a cardiac or membranous, and a pyloric or muscular part. The cardiac part is a subglobular cavity, measuring when distended 9 inches in its longest diameter, 7 inches in depth from the cardia, to the left of which the cavity bulges about 4 inches. The circumference of the cavity is 18 inches. The pyloric part is 3 inches in both longitudinal and vertical diameter, $2\frac{1}{2}$ inches across; its muscular part is so thick that it may be called a gizzard: it has not however the thick callous epithelial lining of a true ornithic gizzard.

The lining membrane of the stomach, as compared with that of the oesophagus, becomes more vascular and is furnished with a thinner epithelium at the cardiac orifice; but the lining membrane for some distance from that orifice, and between it and the entry to the gizzard, is smoother and covered by a thicker layer of epithelium than in the rest of the cardiac cavity, where the ordinary vascular villous gastric surface prevails: the one modification passes insensibly into the other. When fully distended, the cardiac cavity is smooth; as it contracts, the lining membrane falls into rugae, very minute and irregular near the cardia, thicker and larger at the greater curvature, and assuming a longitudinal direction as they approach and converge towards the entry to the gizzard: at this part the folds were ten in number. In the distended stomach of the female Anteater the transverse diameter of the aperture was 1 inch 3 lines; its vertical diameter from 3 to 4 lines; the distance from it to the cardia, 3 inches.

In the smaller male Anteater, subsequently dissected, the gizzard was 2 in. 3 lines in length and 2 in. 9 lines in depth.

Vertically and longitudinally bisected, the cavity of the gizzard appeared as a gently bent canal about a line in diameter, suddenly expanding near the pylorus to receive a valvular prominence from the upper muscular wall, which projected towards that opening. The vertical thickness of the muscular wall above the canal was 1 inch 10 lines, below the canal 1 inch.

In the female Anteater Prof. Owen divided the gizzard, previously injected and distended with alcohol. When the gizzard was divided vertically and transversely the cavity presented a crescentic figure, with the horns directed upwards, on each side a large fleshy protuberance which descended into the cavity. On the lower part of the protuberance are three or four thick angular longitudinal ridges, which fit into the interspaces of similar ridges along the lower part of the cavity. The epithelium of the protuberance is thicker than that of the rest of the cavity, concealing in a greater degree, but not wholly, the vasculariety of the subjacent injected membrane: the cellulo-vascular layer uniting the mucous with the muscular coats is most abundant at the walls of the gizzard opposite the protuberance. The thickness of the muscular wall, from the upper part of the gizzard to the bottom of the protuberance, is 2 inches, that of the lower wall of the gizzard 6 lines: the difference of thickness here, as compared with the same part in the smaller Anteater's stomach, is due to the more contracted state of the gizzard in the latter animal.
On exposing the pylorus from the duodenal side, it presents the form of a crescentic aperture 1 inch in diameter, but reduced to a transverse figure by the pressure of the upper protuberance against its inferior thickened ridge: the mucous membrane of both parts is produced into longitudinal wavy rugæ. A second pylorus might be described where these rugæ abruptly terminate and where the smooth surface of the duodenum begins: this aperture presents a full oval form, 1 inch 2 lines by 9 lines, when that intestine is distended.

The length of the animal, from the muzzle to the vent, was 4 feet 7 inches; the length of the head, 14 inches; of the tail, 33 inches. The length of the intestinal canal was 34 feet, the small intestines measuring 30 feet. The ileum, with a circumference of 1 inch 9 lines, rapidly expands at its termination to form the colon, without any caecal beginning of the latter gut. This presents a circumference of 9½ inches near its commencement, and gradually decreases to a circumference of 6 inches at the rectum. The inner surface of the first half of the small intestines is smooth and even; the last half, or ileum, is characterized by a single continuous longitudinal fold of the mucous membrane from 2 to 3 lines in breadth, extending along the side of the gut opposite the attachment of the mesentery. The modifications of the colon and rectum were described.

The weight of the liver was 28 oz.; that of the spleen, 2 oz. 6 drachms; that of the pancreas, 2 oz.: the form and structure of these viscera and of the gall-bladder were described. The renal and generative organs were next referred to.

The disposition of the pleura in the thorax, and the form and structure of the thoracic viscera were detailed. A peculiarity was noticed in the right auricle of the heart: the entry of the inferior cava was guarded as usual by the eustachian valve, the homologue of the posterior of the two semilunar valves which guard the communication between the sinus and the auricle in the heart of Reptiles; in the great Anteater there is a narrower valvular fold or ridge on the opposite side of the orifice of the inferior cava, answering to the anterior valve in the Reptiles' auricle, and a ridge is continued from both valves in the Anteater, towards the opening of the superior cava.

Of the salivary glands of the Anteater the submaxillary pair were those most developed and modified to supply the unusual quantity of adhesive saliva with which the long, slender and moveable tongue is bedewed: these glands extended over the fore part of the neck and chest, and were upwards of 16 inches in length and 2 inches in thickness.

The parotid gland retained its ordinary proportional size and relative position. The sublingual gland was represented by an extensively diffused thin layer of follicles, opening by many small pores upon the inner surface of the mouth. The labial glands were small, as were also the tonsils.

The muscles of the jaws were described.

The cavity of the mouth is susceptible of great dilatation, and presents the peculiarity of being extended far back beyond the root of
the tongue. The author accordingly defines, in his description, a postlingual and a prelingual part of the mouth. A hard longitudinal cartilaginous ridge projects downwards into the mouth from the inner side of each ramus of the jaw. The author conceives that the termites may be crushed by the action or pressure of the tongue against those callous ridges, which seem to occupy the place of teeth. A fossa descends between the ephylals, which the author called the epihyal pouch. The hyoid-arch has no immediate connection with the tongue, but is situated far behind the tongue, preserving its usual relations with the larynx.

The thyroid is ossified; the ecrioid and arytenoids are cartilaginous.

The total length of the nasal passages is 22 inches, the last 8 inches being muscular and membranous, and extended backwards beyond the base of the skull, where the canals terminate in most other mammals.

The antero-posterior diameter of the base of the tongue was 3\(\frac{1}{2}\) inches; it rapidly diminishes to a cylindrical form, with a diameter of 8 lines, and is thus continued for 18 inches, gradually decreasing to its obtuse apex, which is 1 line in breadth. This long cylindrical tongue is composed almost wholly of muscular fibres, and covered by a smooth epithelium; the only papillae are two fossulate ones (papillae callatae) on the dorsum, about 2 inches in advance of the frenum; the muscles of the tongue and their action were minutely described; also those of the larynx and pharynx.

The brain, which weighed only 3 oz., presented a narrow, elongated, depressed form, the back part of the cerebral hemispheres resting against, but not overlapping, the cerebellum. The hemispheres showed a few symmetrical convolutions; they were united by a large corpus callosum: the olfactory lobes are very large and hollow. Many plexuses and other peculiarities of the vascular system were noticed.

This memoir will appear, illustrated with numerous figures, in the Transactions of the Society.


(Aves, Pl. LXVIII. and LXIX.)


Long. tota 5'25 poll., alae 2'5, caudae 2'25.


Obs. Species rostro et forma Chlorospinga atropileo similis, sed ab hoc et alis hujus generis colore corporis inferi ochraceo-rusfo facile distinguenda.
This little species, of which there are two examples in the National Collection, both apparently Bogota skins, differs from all its congers in the colouring of the lower surface of the body, which is of a pale reddish buff, growing much whiter in the middle of the belly. Above the plumage is lead-coloured, with a greenish tinge super-induced towards the lower part of the back. The wings and tail are brown, with slight greenish edgings; the ear-coverts and whole side of the face are black. In the second specimen, apparently not so mature, there is a light-coloured spot on the front, just above the nostrils. The bill of this species agrees with that of Chlorospingus atropileus, (Lafr.), in size, but is rather straighter in form, as in C. verticalis, (Lafr.).


Long. tota 5:8, alae 3:1, caudae 2:5.

This bird seems intermediate between Tachyphonus and Pyranga, and might be placed in either of these groups. The white axillary feathers point to the former genus, the yellow rump to the latter. The bill, however, is more compressed than is usual in Pyranga, and agrees nearly with that of Tachyphonus coronatus, (Vieill.). The upper plumage has a mottled appearance, caused by the feathers being centrally black and broadly edged with cinereous. In the middle of the back is a perceptibly greenish gloss. The only examples I have seen of this as of the former species are in the British Museum, where Mr. G. R. Gray's uniform kindness affords me every opportunity of studying the collection under his care.

5. Notes on the Habits of some Indian Birds.—Part V.

By Lieut. Burgess.

Family Sturnidæ.

Subfamily Sturninæ.

Genus Pastor.

Pastor Roseus, Temm. The Rose-coloured Pastor.

This bird visits the Deccan in immense flocks to feed on the grain called jowar which begins to ripen in the month of November, and is cut about March. The arrival of these birds is uncertain, in some years being earlier, in others later. On referring to notes made at the time, I find that in the year 1848 the first Rose-coloured Pastor was seen on the 28th of November, and the last on the 5th of April 1849. The first which I observed in the autumn of that year, was on the 16th of November. In the year 1850, I saw a large flock as early as the 24th of August; I transcribe the note: "August 24,
1850. Saw a large flock of the Rose-coloured Starlings with their broods to-day feeding in an open field, evidently on insects, as they were constantly in chase of them, flying.” I never saw this bird so early as it was that year, and they arrived long before the jowaree was ripe. This grain when ripe, and before it is ripe, is their staple food. After it is cut and housed, I have observed them busily feeding on the flowers of the leafless Caper, a shrub very common in many parts of the Deccan, especially on the banks of the larger rivers. I have made many, but hitherto ineffectual attempts, to ascertain where these birds breed; that they do breed somewhere on the continent of India, there can be no doubt, as the young birds which I saw on the 24th of August 1850, were in brown plumage, and appeared as if they had not long left the nest. I was informed by a clever and well-informed Mharatta, who seemed to have considerable knowledge of the habits of various birds, that the Rose Starling retires to the Ghauts to breed. On visiting those mountains in 1849, I made many inquiries of the hill people, but was unsuccessful in getting any information from them. However, I think it very probable that those birds, after leaving the Deccan in March and April, break up into pairs, and retire to the ravines and forests in the Ghauts to breed. Like the common Starling, these birds congregate in immense flocks before going to roost, and it is a curious sight to watch their movements as they fly in clouds over their night haunts. Towards sunset they begin to collect from the grain-fields, and fly off in detached parties, at first containing only a few individuals. These soon amalgamate, and form large masses, which, as they dash, now upwards and now downwards, now in circles, at one time almost disappear, at another look like a rapidly passing cloud. As soon as the sun is down, they retire to the habool brakes that clothe the banks of the streams and rivers. These birds collect in such numbers on the small bushes and trees on the outskirts of the grain-fields, as to make them appear as if loaded with rich, rosy blossoms, and to make one wonder that the tree is not broken down with their weight.

Family Fringillidae.

Subfamily Coccothraustinae, Swain.

Genus Euplectes, Swain.

Euplectes (Bengalensis?).

I forwarded a paper on the nidification, habits, &c. of this little bird, together with specimens of the skins, nests and eggs, in the year 1852. The paper was read, and the specimens exhibited at the meeting of the Society on July 27th, 1852. Repetition therefore is needless.
Genus **Amadina**, Swain.

Subgenus **Spermestes**.

**Spermestes Cheet**, Sykes.

This is a very common little bird, living in flocks, to be found in hedges and low bushes, and is, I believe, partial to those of the leafless Caper. It breeds, I conclude, twice in the year, as I have found its nest in the months of November and March. The nest in two instances was formed of the flower-stems of the silk-grass, which is abundant in the beds of streams; it was lined with feathers and the silky seeds of the grass; its shape was that of a hollow ball. The largest number of eggs I have found was six, but I see that Col. Sykes found as many as ten. The eggs are very small and of a pure white colour, rather more than $\frac{3}{10}$ths of an inch long by $\frac{7}{10}$ths of an inch wide. These little birds are often to be seen on the ground picking up grass-seeds, and so close together that several may be killed at a shot: they do not take long flights, but merely from bush to bush. I saw numbers of them in the leafless Caper on the banks of the river Bheema.

Subfamily **Fringillinae**.

Genus **Pyrgita**, Swain.

**Pyrgita domestica.** House-sparrow.

Common enough in India. It breeds during the monsoon. I saw them building in the month of August, and its habits, mode of building its nest, &c., are similar to those of the Sparrow at home.

**Pyrgita flavicollis**, Frankl. Yellow-necked Sparrow.

Of the time of breeding or nesting habits I know nothing, but Dr. Jerdon in his Catalogue says, "It is said to breed in holes of trees. The egg is of a greenish-white, much streaked and blotched with purple-brown: I obtained one from the body of a female."

Genus **Emberiza**.

**Emberiza melanocephala**, Jerdon.

This handsome Bunting is very common in the Deccan when the grain crops are becoming ripe. The Patel or headman of the town of Jintee, near the river Bheema in the Deccan, assured me that these birds, or some of them, remain to breed in the thick babool copses that clothe the banks of the river near that town, but I did not obtain the nests or eggs. I believe that the greater part migrate much about the same time as the Rose-coloured Pastor.
Subfamily Alaudinæ.

Genus Alauda.

Alauda deva, Sykes.

I have some eggs which I believe to be those of this lark, though on account of the similarity of the two or three species that inhabit the Deccan it is very difficult to state this positively. I obtained the eggs on the 11th of September; the nest was composed of a few stems of grass collected together, and forming a very slight receptacle for the eggs. Birds of this species breed twice during the year; I have obtained their eggs during the months of May, September, and October. They lay but two eggs, of a pale mottled brown colour, with a band of the same round the larger end; they are rather more than $\frac{1}{10}$ths of an inch long by nearly $\frac{6}{10}$ths of an inch wide.

6. Catalogus Molluscorum Pneumonatorum Insularum Maderensium: or a List of all the Land and Fresh-water Shells, Recent and Fossil, of the Madeiran Islands: arranged in Groups according to their Natural Affinities; with Diagnoses of the Groups, and of the New or Hitherto Imperfectly Defined Species. By R. T. Lowe, M.A., Corresponding Member of the Zoological Society, etc.

The list of Madeiran Land Mollusks has been considerably extended of late years, in some measure by my own researches, but incomparably more by the discoveries of Mr. Wollaston and Mr. T. S. Leacock. To the penetrating eye and accurate discriminative powers of the first-named able and accomplished naturalist are due not less than thirty species, which had hitherto escaped notice; belonging principally to the genus Pupa, yet comprising several fine and some most curious new forms of Helix; whilst his rich collections of Achatina in Porto Santo have enabled me to establish at least twice the number of species previously found there, and to fix, on more substantial grounds, the diagnoses of the rest. Mr. Leacock also has discovered several new species, and by his exact observations helped materially in many cases to confirm or elucidate the characters assigned to those already noticed.

These additions being so considerable, it seemed better, instead of intercalating them in a late republication of some former papers on the Fauna and Flora of Madeira*, to furnish in a distinct form a fresh and complete list of all the species, recent and fossil: giving the diagnoses of those only which remain imperfectly described, or which have been discovered since 1830; and reserving fuller details


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for a larger work on the whole subject. Such a catalogue, containing some account of every ascertained native species, will be acceptable, it is believed, at once to the geologist and helicologist.

The groups into which the species are distributed were chiefly settled previously to my acquaintance with the very useful work of Dr. Albers, entitled 'Die Heliceen, nach Natürlicher Verwandtschaft,' &c.; Berlin, 1850: but I gladly embrace this occasion to acknowledge my obligations in various particulars to that interesting and important work, and to record my recollection of much pleasant intercourse and friendly communication in Madeira, during the winter of 1850–51, with its able author.

Lea Rectory, June 12th, 1854.

MOLLUSCA GASTEROPODA PNEUMONATA.

Division A. Terrestres.

Family I. Limacidae.

Genus 1. Arion, Fér.


_Hab._ in Madera.

Genus 2. Limax, (L.) Fér.


_Hab._ in Madera.


_Hab._ in Madera.


_Hab._ in Madera.

5. L. agrestis, L.


_Hab._ in Madera.
Family II. Testacellidæ.

Genus 1. Testacella, Cuv.


Hab. in Madera, rariss.

Obs. Animal ochraceo-flavum.


Hab. in Madera, parum vulg.

Obs. Animal olivaceo-fuscum, ora pedis aurantio-carnea.

Family III. Helicidæ.

Genus 1. Vitrina, Drap.

8. V. Teneriffæ, Quoy et Gaim. Testa haliotidiformis valde depressa squamato-planata transverse oblonga tenuissima membranae succineo-virente nitida levigata, sepe remote et obsolete lineis impressis exoletis raris spiraliter sulcato-pectinata, striis transversis accretionis vel subtilissime (oculo armato) quasi crenulato-fimbriatis v. ciliato-striolulatis; anfractibus duobus planatis, ultimo vastissimo, sutura obsoleta, spira minima laterali planata (apice depressa) intus incompleta aperta, columella (revera nulla) laxe spiraliter aperturque auriformi faciem inferiorem adequante ad apicem usque patulis, peristomate infra et intus sepissime membranaceo-limbato.

Animal pallide cinereum, corpore immaculato, pedis limbo intus immarginato lineis pallidis transversis tessellato.

Testae diam. maj. 15-17, min. 11-13, alt. 5½-7½, axis 3-3½ mill.

Anfr. 2-2½.


Hab. in Madera, vulg.


Animal (semel observatum) nigricans, corpore fusco, nigro maculato, postice colloque late roseo v. roseo-castaneo; pede subtus pallido, limbo fuscescens unicolor (nec tessellato) linea nigra interrupta intus marginata.

Diam. maj. 5–10 v. $11\frac{1}{2}$, min. $3\frac{3}{4}–7\frac{1}{2}$ v. 8, alt. $2\frac{1}{2}–4\frac{1}{2}$ v. 5, axis 1–2 v. 2$\frac{1}{2}$ mill. Anfr. $2\frac{1}{2}$–3.

*V. marcida,* (Gould) Pf. ii. 507?

Hab. in Madera (Rib. Frio) rarior, et in Portu Sto.

Obs. Inter *V. Teneriffae* et *V. Lamareckii* media, huic propior.

10. *V. Lamareckii* (Fér.). *T. helicoidea transverse subgloboso-depressa* v. *subinfasto-ventricosa bullata tenuis pellucido-succinea aurea subvirescens nitidissima lavigata, raro obsoletissime spirali sulcato-pectinata et subrugulosa, striis accretionis subtilissime crenulato-fimbriolatis; anfr. 3–4 convexusculis, ultimo subventricoso, sutura distincta impressa, spira subcentrales convexiuscula (apice prominula subexserta) intus completa; apertura transverse lunato-ovali subrotundata, peristomate cequaliter arcuato.

Animal nigricans, corpore fusco, nigro maculato; pede subtus pallido, limbo intus immarginato fuscescentе unicolore (nec tessellato). Diam. maj. $11\frac{1}{2}–14\frac{1}{2}$, min. $8–11\frac{1}{2}$, alt. $6–7\frac{1}{2}$, axis $3\frac{1}{2}–4\frac{1}{2}$ mill. Anfr. $3–3\frac{1}{2}$.


*Vitrina Lamareckii,* Prim. 40. t. 5. f. 1 a.

*V. nitida,* (Gould) Pf. ii. 507?

Hab. in Madera vulgariss.


Obs. 2. *Vitrinae* tres Maderenses, sc. *V. Teneriffae,* *V. media,* et *V. Lamareckii,* species tres Europaeas, sc. *V. elongatum,* *V. diaphanam,* et *V. pellucidam,* Drap. miro perquam analogiae ordine repetunt.

Genus 2. *Helix,* L.

§ 1. *Leptaxis.*

(Typ. *H. erubescens,* Lowe.)

Testae imperforatae (jun. perforatae) subconoideo-globose, statu saltum juniores subcarinatae subtenues glabra lavigatae leviter rugulosomalleatae late coloratae fasciatae. Anfr. 4–5, ultimo leviter cari-

11. H. membranacea, Syn. Diagn. p. 3. no. 2. T. imperfect. depressa-globosa subcarinata tenuissima membranacea flexilis undatim rugulosomalleata nitidiuscula roseo-flavescens rarius virescens pellucida, opaco-lacteo ad carinam suturemque praeeratim sed et aliqui coagulato-liturata, fascia carinali unica angusta opaco-albida; spira convexo-depressa, apice obtusa; anfr. 4, cito crescentibus convexisculis, ult. antice vix descendente, satura distincta; apert. transverse lunato-ovali, labris disjunctis, lamina ventrali tenuissima v. nulla; perist. columellaque simplicibus acutis.

Diam. maj. 10-12, min. 8\(\frac{1}{2}\)-10\(\frac{1}{2}\), alt. 7-9, axis 4-6 mill. Anfr. 4-4\(\frac{1}{2}\).

Vitrina marcida, (Gould) Pf. ii. 507?

Hab. in Madera vulg.

Obs. 1. Animal (vera Helix, nec Vitrina) pede vix intra testam retractili.

Obs. 2. Cum H. furva juxiore, cui simillima, haud confundenda. Differt testa nitida laevior, semper imperfecta, membranacea tenuior flexili (potius quam fragili), pallidiore pellucidiore lacteo coagulatim liturata efasciata, spire anfr. convexioribus apice obtusiore, carina obsoletiore nec fusco-fasciata v. tessellato-maculata.

12. H. furva, Prim. p. 40. t. 5. f. 2; Küst. M. et C. p. 231. no. 202. t. 29. f. 20-22; Pf. i. 29.

Hab. in sylvis Maderae, rarior.

Obs. Neglectis prout leviornibus varr. \(\alpha\) et \(\beta\), Prim. i. c., dignoscuntur varr. due: \(\alpha\) major, fusco tessellatim unifasciata (Prim. i. c. t. 5. f. 2; Küst. M. et C. i. c.); et \(\beta\) minor tenuior carina obsoletiore.


Hab. in sylvis Maderae, et in Ins. Desertis.

Obs. 1. Distinguuntur varr. 3 Maderenses (\(\alpha\), \(\beta\), \(\gamma\)) minores v. maiores, fasciatae v. efasciatae, spira plus minus exsclera, cum subvar. rhodostomatibus v. leucostomatibus; adjecta var. \(\delta\), in Ins. Des. Australi degente, maxima infalliuscula tenuior late colorata roseofulva, subquinquefasciata (H. hyaena, Syn. Diagn. p. 3. no. 3).

Obs. 2. Icon. Prim. i. c. t. 5. f. 3. ad Subv. 1, Küsteri i. c. t. 71. f. 5. 6. ad Subv. 2, var. \(\alpha\) referendae.

Canariensibus proveniunt. *H. erubescens* ideoque Maderæ Insulisque Desértis (in Portu S° omnino deest) species adhuc omnino propria.

§ 2. **Katostoma.**

(Typ. *H. phlebophora*, Lowe.)


*Hab.* (in Madera nunquam) in Portu S° insulisque parvulis proxime circumjecentibus, nec alibi: α. vulgariss.; β. rariss.; γ. (semifoss. et recens) rarior; δ. vulg. in Ins. Ferro juxta Portum S°, nec alibi.


Diam. maj. 12–13, min. 11–12, alt. 12–10 mill. Anfr. 5–5½.

*Hab.* in Portu S° semifoss. in arena calcarea, nec recens; vulg. T. V. Wollaston.


§ 3. **Macularia, Alb.** p. 80.

(Typ. *H. niciensis*, Fér.)

*T. imperfect.* v. oblecte perf. subgloboso-depressæ sapissime subcarinatae substrenuissimæ lete coloratae interruptim s. maculatim fasciatae. Anfr. 4½–5 convexiusculi, ult. depresso plerumque angulato s. le-

Obs. 1. Species Porto-Santcano-Maderenses paullum aberrantes; prima (H. chrysomela) ad Archelicem Alb. tendente. H. fluctuosa eodem ad H. chrysomelam gradu stare videtur quo H. Paciniana, Phil. (vieta, Rossin.) ad H. muralem, Müll.

Obs. 2. Sectio Macularia per H. muralem, Müll. subundulatoplicatam arcte Katostomatibus (H. phlebophorae imprimis) adjuncta; ut per H. serpentinum, Fér. et chrysomelam, Pf. ad Archelices tendit.

16. H. chrysomela, Pf. T. imperfect. globuloso-depressa (Archeloidea) obtuse carinata v. angulata nitidiuscula distincte ruguloso-malleata; spira convexiuscula, apice obtusa, sutura distinctiuscula parum impressa; anfr. 5 planiusculis, ult. antice parum deflexo, subitus subplanato, carina exacte media antice evanescens; apert. transverse ovato-lunata depressa; perist. recto incrassato obtuso, axin versus strictiusculo calloso-dilatato convexo; labris remotis parallelis callo exspanso subtilissime arenulato junctis; perist. intus calloque parietali coloratis (aurantio-fuvis v. ochraceo-gilvis, raro citrinis v. cerinis).

Diam. maj. 9–10, min. 7–9, alt. 5$^{1/2}$–7, axis 4–5 mill. Anfr. 5.

H. chrysomela, Pf. i. 281 (habit. “Brasilia” erronea); 1b. p. 447;
H. aenostoma, Lowe MSS. olim.

Hab. in arena (recentiore?) calcarea Portús Sth semifossilis, nec recens, ubi ipse a.d. 1828 abundanter inveni.

Obs. Testae optime conservatae, sed præter fauces omnino decoloratae cretaeae sc. candidae subpellucido-flavescentes, lituris opacolaetis coagulato-rugulisae: quibusdam fæciis angustis fuscis subinterruptis evanidis v. indistinctis, dubus supra, unica infra carinam, vittatis. Species elegans, Archelices Alb. accedens, H. syriaceae (Ehr.) Pf. i. 131 (H. onychina, Rossin.) etiam affinis.

17. H. fluctuosa, Syn. Diagn. p. 3. no. 4. T. imperfect. depresso-trochoidea acute carinata obsoletae rugulosomalleata levigata; spira plerumque depressa, apice obtusa, sutura obsoletiusscula; anfract. 5$^{1/2}$ planatis, ult. antice parum deflexo, subitus subplanato, carina acuta antice obsoletiore; apert. transverse ovato-lunata depressa; perist. recto incrassato obtuso, axin versus strictiusculo calloso-dilatato planato, labris remotis parallellis.

Diam. maj. 9$^{1/2}$–15$^{1/2}$, min. 8$^{1/2}$–14, alt. 5$^{1/2}$–10, axis 4–6 mill. Anfr. 5–5$^{1/2}$.

Hab. omnino fossilis in arena (vetustiore?) calcarea Portús Sth, ubi a.d. 1828 ipse perparce legi.—Vulg. T. V. Wollaston, 1849.

Obs. Variat forma magis globosa v. helicoidea, carina obsoletiore, spira exsertiore; in H. chrysomelam transiens. Characteres vero
superstites (testis omnino fossilibus decoloratis etiam decoraticis), 
necnon magnitudo, sicut etiam analogia H. Paciniæ Phil. quoad 
H. muralem Müll., pro distincta speciæ habendam suadent.


(Typ. H. undata, Lowe.)

T. imperf. v. obtecte perf. (jun. perf.) depresso-globosæ, statu 
saltem jun. subcarinatæ l. angulatae, subtenuiusculæ glabrae ruguo 
losos-malleatæ v. undulato-corrugate granulatae fasciatæ v. sub 
concoloros. Anfr. 5, ult. depresso vix subangulato antice deflexo. 
Apert. lunato-ovalis. Perist. simplex obtutum vix sublatum, 
labris remotis disjunctis, basali strictiusculo axin versus oblique 
ascentente et (sicut in Katostomatibus) incrassato dilatato-plan 
нато ecolorato. Axis latens obsoletus lamina planata obductus.

18. H. undata, Prim. p. 41. t. 5. f. 5; Fér. i. 165. t. 46 A. f. 1; 
Küst. M. et C. p. 154. no. 593. t. 93. f. 3, 4; Pf. i. 191.


Hab. in Madera solum! vulgatiss.: nec alibi.

Species characteribus sat constans. Variat tamen valde magnitu 
dine, necnon spira plus minus depressa. Testæ jun. v. pulli tenue 
fragillimæ umbilicatae tenuiter fere striatae, fascia carinali obscura 
mox evanida.

binato-depressa transverse subdiscoidea vix angulato-subcarinatæ 
solidiuscula olivaceo-fulva virescens fusco supra bifasciata ob 
lique crebristrata, striis æquis distinctis subundulatis; spira de 
pressiuscula, apice obtusissimo levigato sepe carioso, satura di 
sincta; anfr. 5½ planiusculis, ult. depressiusculo obtusissime sub 
angulato, subitus planiusculo, antice longe declivi; apert. trans 
verse lunato-ovali; perist. patulo subreflexo incrassato labiato, 
intus costa annulari marginato purpurascente, axin versus dilatato, 
labris conniventibus subapproximatis lamina tenui junctis.

Diam. maj. 21-28, min. 17-23, alt. 13-17, axis 9½-12. mill. 
Anfr. 5½.

Hab. in Deserta majore et minore, rarior.

globosæ orbiculata subinflata ecarinata tenuis fulvo-flavescens fusco 
supra bifasciata obsolete undulato-striata; spira convexiuscula 
apice obtuso levigato, satura distincta subimpressa; anfr. 6 con 
vexisculis, ult. inflato subitus convexo antice longe declivi; apert. 
lunato-rotundata; perist. recto simplici acuto purpurascente deor 
sum subpatulo vix reflexiusculo obtuso, axin versus dilatato, labris 
subremotis lamina tenui junctis.
Diam. maj. 25-29, min. 22-25, alt. 20-22, axis 13-14 mill.
Anfr. 6.

*Hab.* in Deserta Australi, rarior.
*Var.* forsan preecedentis dies docebit.


(Typ. *H. hispana*, L.)


21. *H. Lowei*, Fér. (Bullet. de Zoolog. 1835, p. 89). *T. aperte umbilicata orbiculata e turbinato-globosa fere discoidea solidiuscula lineis duabus fulvis bicingulata oblique crebristrata levigata*, jun. *(hispido-)*granulata; *spira plus minus* *elevata* *alicando subplanato-depressa*, *apice levi punctulato obtusissimo*, *sutura distincta*; *anfr. 5 ½ convexiusculus*, ult. *aliando supra planato obtuse angulato-carinato antice declivi*; *umbil. mediocris* *(spirali) aperto*; *apert. lunato-rotundata subcirculari*; *perist. reflexo-labiato expanso* *azin versus incrassato*, *labris subapproxi-

matis callo junctis*.

Diam. maj. 45-50, min. 39-45, alt. 29-40 mill. *Anfr. 5-5 ½*.

*Varr.* *adsunt duas*: *α*, subglobosa *levigata spira altiore* *(H. Lowei, Fér. l. c.; Küst. M. et C. t. 156. f. 1, 2*; *H. Porto-sanctana β, gigantea*, Prim. 46. t. 5. f. 16; Pf. i. 368),—*et β*, subdiscoidea *striata et granulato-punctata subcarinata*, *spira depressa, a* *nfr. supra planatis*.

*Hab. semifoss. (α. aliando fere quasi recens)* in Portu S°.


Tres *adsunt varr.*: *α*, *fulva*, *apert*.* purpurascente, umbil. sub*-obtecto *(H. Porto-sanctana α, Prim. 46. t. 5. f. 15*; *Fér. i. p. 42. t. 67. f. 9, 10*; *Sow. in Zool. Journ. i. 57. t. 3. f. 5 sinistra*; Küst. M. et C. p. 233. no. 696. t. 111. f. 17-19; Pf. i. 367) :—*β*, *albida*, *apert.* *pallide carneae, umbil. submajore magis aperto* *(Sow. l. c. f. 5 media cum animali, et 5 dextra):—γ*, *virescenti-albida efasciata*.

*Hab.* in Portu S° *(α. vulgatissima, β. rarior, γ. rariss.)*.

§ 6. *Xerophila*, (Held) Alb. 74, pars.

*Theba*, Beck, pars.

(Typ. *H. caperata*, Mont.)

*T. umbilicatae orbiculatae globoso-depressae subdiscoideae raro sub- turbinatae, statu saltem jun. angulato-carinatae calcareae festivae s.*

23. H. armillata, Syn. Diagn. 4. no. 9; Küst. M. et C. t. 155. f. 60–63. T. aperte umbilicata orbiculata subitus convexa sub-globoso-depressa subcarinata cinerea v. pallide ochracea albo fuscoque tessellatim fasciata et maculata arcte nitideque capillaceo-striata, striis creberrimis aquis transversis; spira convexo-depressa, apice levi fusco-cerulescente, sutura distincta impressa profunda; anfr. 5 convexis tumidiusculis, ult. obtuse sed distincte angulato-carinato, antice haud deflexo; umbil. majuso pervio aperto, pariete subabrupte declivi; apert. lunato-rotundata; perist. omnino simplici acuto, labris remotis.


H. striata, Drap.? Prim. 53. no. 44 (non Drap.).

H. Lovei, Pot. et Mich. Gal. des Moll. (1838) p. 91. no. 65; Pf. i. 149 (non Fér.).

Hab. in Madera prope urbem Funchal: haud infrequens.

§ 7. Lemniscia.

Xerophilaæ sp. Albers 74.

(Typ. H. Michaudi, Desh.)


Obs. Testæ parvulae concinnæ.


Hab. inter Lichenes in cacuminibus summis Portús Sdi (Pico de Facho, P. Branco, &c.) rarior.

§ 8. **Euparypha**, Hartm.

*Xerophileae* sp. Alb. 74.

*Theba*, Beck, sp.

(Typ. *H. pisana*, Müll.)


*Hab.* in Maderse et Portús 8th arena calcarea (nece alibi) *vulgatiss.*


Diam. maj. 13–18, min. 11–16, alt. 10–17 mill. *Anfr. 4–5.*

*Hab.* in Insulis “Salvages.”


(Typ. *H. pomatia*, L.)


*Perist. subpatulum subincurssatum* v. *obtusum* ad axin *dilatato-reflexum.*

*Obs.* Testae majusculæ.

27. *H. subplicata*, Sow. in Zool. Journ. i. 56. t. 3. f. 1 (subfossilis decorticata); Prim. 41. t. 5. f. 4; Fér. i. 272. t. 9 B. f. 8, 9,
et t. 17 A. f. 14, 15; Küst. M. et C. p. 227. no. 198. t. 29. f. 1, 2; Pf. i. 24.

Hab. recens in insula Baxo solum, subfossilis vulg. in Portu S\textsuperscript{io}. 
Obs. Testae seniores forma obliquiore evadunt.

§ 10. Heliocomela.

(Typ. H. punctulata, Sow.)

\textit{T. rimato-subperf. pomiformi-globosa omnino ecarinata distincte fasciata scabra s. hispido-granulata. Anfr. 5–6 subleniter crescentes, ult. magno antice descendent. Apert. lunato-rotundata. Perist. simplex rectum acutum v. obtusiusculum ad axin calloso-reflexum.}


\textit{Hab.} semifoss. in Madera ad Caniçal et in Portu S\textsuperscript{io} copiosissima: recens nondum lecta.


\textit{Var. a. setulosa}; Sow. l. c. t. 3. f. 2; Prim. l. c. t. 6. f. 7. \textit{H. punctulata}, (Sow.) Fér. i. 225. t. 28 B. f. 3; Küst. M. et C. p. 155. no. 594. t. 93. f. 14–16; Pf. i. 194.

\textit{Var. β. avellana}; minor, magis conoideo-globosa, hispidior, spira altiore exserata.

\textit{Var. γ. solida}. \textit{H. punctulata β}, Prim. l. c. t. 6. f. 8; Pf. i. 194.

\textit{H. punctulata}, (Sow.) Fér. l. c. f. 4.

\textit{Hab.} in Portu S\textsuperscript{io}; β quoque in Deserta Australi.

\textit{Obs.} Sp. forma magis minusve globosa, spira magis minusve exserata, necnon magnitudine et soliditate v. tenuitate, in varr. subvarietatibusque omnibus perquam variabilis.

§ 11. Plebecula.

(Typ. H. vulgata, Lowe.)

\textit{T. umbilicata depresso-turbinata ecarinata fasciata hispido-granulata nitidiuscula. Anfr. 5–6 subleniter crescentes, ult. antice parum


*Var. a. trifasciata*; minor pallida fascis tribus æquis angustis distinctis equidistantibus, umbil. subangustato.

Diam. maj. 11-13, min. 9-11, alt. 8-10 mill. Anfr. 5½-6.

*H. nitidiuscula*, Prim. p. 52. t. 6. f. 6; Fér. i. 200. t. 28 B. f. 1; Küst. M. et C. p. 161. no. 604. t. 94. f. 5, 6; Pf. i. 196 (nec Sowerby).

*Hab.* in Madera ubique vulgatiss. In Desertis, ubi in var. γ. transit, minus frequens.


*Var. b. canicalensis*; testa solidiore crassiori rudiore, spira ple rumque prominentiore apice acutior, aufr. convexioribus distinctioribus, sutura profundiore.

Diam. maj. 11-14, min. 10-11, alt. 10-11 mill. Anfr. 6.


*Hab.* semifoss. in arena calcarea Canicalensi Maderæ.

*Obs.* Variat spira plus minus elevata, plerumque subturrita, sepe vero Æque ac in α, depressa. Testae plerumque decoloratae omnino cretacese albae; interdum fascis vix evanescentibus.

*Var. γ. giramica*; major largior magis depresso-rotundata v. minus compacto-globo sa intensius colorata saepissime (supra saltem) castanea, fascis fuscis inaequalibus, duabus superioribus seepissime confluentibus, tertia inferior sepe latiore, umbil. majore apertio subpatulo.


*H. nitidiuscula β*, Major, Pf. i. 197; Küst. M. et C. p. 162. t. 94. f. 7, 8.

*Hab.* hine inde in Madera fere scorsim, et in Ins. Deserta Minore cum α. commixa.

*Obs.* Transitus inter α. et γ. in Deserta Minore plures observantur.
31. **H. lurida**, Prim. 52. t. 6. f. 5; Küst. M. et C. t. 155. f. 31-33; Pf. i. 197. **H. nitidiuscula**, Sow. in Zool. Journ. i. 57. t. 3. f. 4, nec alior. 

*Hab. in Portu Sth rariss.*


§ 12. **Irus.**

(Typ. **H. depauperata**, Lowe.)


*Diam.* maj. 6-9, min. 5-7, alt. 4-6 mill. *Anfr.* 5-5½. 


*Hab.* in Ins. Deserta Septentr. Minore.

*Obs.* Costis plicisve inaequalibus, quibusdam pallidis albis, spiram maculam s. marmoratem reddentibus, aspectu quodammodo **H. arctae**. Tota omnino egranulata.

33. **H. depauperata**, Prim. 51. t. 6. f. 4; Küst. M. et C. p. 261. no. 244. t. 38. f. 16, 17; Pf. i. 166.

*Hab.* in Portu Sth recens fossilisque vulg.

34. **H. squalida**, Syn. Diagn. 5. no. 15. **T. aperte umbilicata** convexo-depressa orbiculata subdiscoidea solidiuscula arcte et supra grossiusculae striata erosulo-scrobiculata tota subtilissime et con-fertissime reticulato-granulata calva fusco-cornea efasciata, supra sepe lutosa terraque obducta; spira convexo-depressa obtusissima, apice depressiuscula, sutura distincta subimpressa; *anfr.* 5 distinctis planiusculis leniter et æque crescentibus, ult. penultimo vix
latiore antice abrupte deflexo; umbil. sat magno spirali profundo aperto s. nudo; apert. lunato-rotundata subcincinata, labris lamina subcallosa junctis; perist. subexpanso reflexiusculo simpliciusculo tenui acuto pallidiusculo, intus costa annuari munito.

Recens. Diam. maj. 6–7, min. 5½–6, alt. 4–4½. Anfr. 5.

Hab. in Madera; recens rariss.: fossilis sat vulg.

Differt ab H. depauperata testa minore intensius colorata fusca rudiori v. distinctius scrobiculata, anfr. lentius v. equius crescentibus ult. angustiore, apice spire obtusissimo etiam depresso, umbil. majore largiore, anfr. subpaucioribus. Sculptura sub lente, nisi subtilior, eadem: sc. vel subtilissime granulata.

§ 13. SPIRORBULA.

Ochthephila (Beck) sp. Alb. 88.

(Typ. H. obtecta, Lowe.)


35. H. latens, Syn. Diagn. 5. no. 16. T. umbilicata supra planata infra inflato-convexa subcornucopteriformis tenuissima membranacea flexilis inaequaliter et radiuscula striata erosa-scorpduculata totaque subtilissime et confertissime quasi pulverulento-granulata, calva cornea efasciata terra limove obducta; spira planata apice depressa fere immersa, sutura distincta impressa; anfr. paucis 3–3½ distinctis planatis rapide crescentibus, ult. magno superne angulato subcarinato, inferne valde convexo, antice inflato-dilatato parum deflexo; umbil. subparvo angustato cylindrico vix spirali profundo aperto s. nudo; apert. lunato-ovali altiore quasi lata, labris conniventibus approximatis; perist. simplici tenui acuto.

Diam. maj. 5–6, min. 4½–5, alt. 3–3½ mill. Anfr. 3–3½.

Hab. in Madera, rariss.

36. H. obtecta, Prim. pp. 47, 48. t. 5. f. 20 a, b; Küst. M. et C. p. 143. no. 577. t. 91. f. 19–21; Pf. i. 188. (Var. β. quiddam diversum suspicor.)

Hab. in Portu Sto.

37. H. paupercula, Prim. p. 47. t. 5. f. 19; Fér. Hist. i. p. 8. t. 69 D. f. 6; Küst. M. et C. p. 144. no. 579. t. 92. f. 3–8; Pf. i. 189.

Hab. in Madera, Portu Sto, Insulisque Desertis.
§ 14. ZURAMA, Leach.

Glaphyra, Alb. 87. Vallonia, Risso.

(Typ. H. pulchella, Müll.)


Obs. Campylecis valde affines.

38. H. pulchella, Müll. Pf. i. 365; Gray, Man. p. 141 (excl. var. 1); Prim. p. 45. no. 21; Küst. M. et C. p. 326. no. 829. t. 129. f. 48–52.

H. pulchella β, Drap. 112. t. 7. f. 33, 34; Rossm. vii. pp. 5, 6. f. 440.

In Madera sub lapidibus post pluvias hieme vulg. In Portu S'to et Desertis nondum detecta.

Obs. H. costata Müll. nullibi exstat.

§ 15. EUROMPHALA, Beck.

Patula, (Held) Alb. 64.

(Typ. H. rotundata, Müll.)


Hab. in Madera et in Ins. Des. Majore.

Due adsunt varr.: α. annulata; subdiscoidea spira depressa, distincte v. remotiuseque plicato-costellata fusco-rufescens; et β. sericina; subturbanata, spira subpyramidato-exserta laevigata sericeo-nitidiuscula eruberrime striata costellis obsolete v. nullis palliusecula fusco-virescentes; inter muscos ad truncos Laurorum in sylvis.

40. H. Gueriniana, Syn. Diagn. 5. no. 17. T. latissime et perspective concavo-umbilicata subtus excavata rotundato-discoidea convexo-planata lenticalaris arctispira distincte angulato-carinata tenuis nitida pallide luteo-cornea, supra grossiuscula erubricostata rufoque pulchre tessellatim radiato-maculata sepe erosulo-cariosa decorticata, subtus pellucida laevigata s. obsolete substrriata lucida nitens rufo pallide annulata; spira convexo-planata subtabellata apice obtusissima laevigata, sutura distincta impressa; anfr. 7
planatis lente crescentibus, ult. antice recto haud deflexo supra planato subitus infra carinam aequaliter convexo-rotundato; umbil. latissimo infundibuliformi pervio patulo profundo; apert. oblique lunato-ovali; perist. simplici recto tenui acuto.

Diam. maj. 6-6½, min. 5½-6, alt. 2-2½ mill. Anfr. 7.

Hab. in declivibus graminosis inter sylvas Convallis Frigidis Maderæ, rariss. Prima invenit Jemima Carolina Guerin.


§ 16. Lucilla.

Hyalina, Fér. Alb. 66.

(Typ. H. cellaria, Müll.)


41. H. cellaria, Müll.; Prim. 47. no. 25; Küst. M. et C. p. 102. no. 517. t. 84. f. 8-10; Pf. i. 111, 112. H. nitida, Drap. 117. t. 8. f. 23-25. H. lucida, Mont. Zonites cellarius, Gray, Man. 170. t. 4. f. 40.

Hab. in Madera, vulg.

42. H. scintilla, Syn. Diagn. 6. no. 18. T. minuta late et perspective umbilicata orbiculata discoidea depresso-planata vix convexiuscula sublenticularis ecarinata tenuis nitida leavigata utrinque hyalino-pellucida pallide virescens; spira vix convexiuscula plano-depressa, apice (animali fæta) flavescente, sutura distincta impressa; anfr. 4 planatis lente et æque crescentibus; umbil. largo patulo profundo equaliter spirali, usque ad apicem pervio; apert. lunata, labris disjunctis remotis; perist. simplici recto tenui acuto.

Diam. 2 mill. v. vix 1 linea; alt. ½ mill. Anfr. 4.

Hab. sub lapidibus ad Levadam Sème Luciae prope urbem Funchal. Maderæ, rariss.


No. CCLXXI.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.
§ 17. Crystallus.

_Hyalina_, Fér. sp. Alb. 66. _Discus_, Fitz. sp.

(Typ. _H. crystallina_, Müll.)


43. _H. crystallina_, Müll.; Prim. 47. no. 26; Drap. 118. t. 8. f. 13–18; Küst. M. et C. p. 128. no. 555. t. 88. f. 27–30; Pf. i. 59, 60. _Zonites crystallinus_, Gray, Man. 176. t. 4. f. 42.

_Hab._ in Madera, hieme vulg.

§ 18. Janulus.

(Typ. _H. bifrons_, Lowe.)


44. _H. bifrons_, Prim. 46. t. 5. f. 18; Küst. M. et C. p. 234. no. 698. t. 111. f. 23–25; Pf. i. 144, 145.

_Hab._ in Madera, recens fossilisque vulg.

45. _H. calathus_, Syn. Diagn. 6. no. 19. _T. umbilicata_ compacto-orbiculato-convexa subdiscoidea distincte angulato-carinata tenuis sericina-nitidiuscula rufo-cornea, infra lavis, supra elegantan costellata, costellis concinnis arctis crebris æquis expressa distinctis, tota exilissime creberrimeque spiraliter striolata; spira rufo-tessellata _v._ maculata subconvexa, sutura distincta impressa; anfr. 8–9 lentissime et ægue crescentibus angustis planisculus arcte et concinniter expressis, ult. distincte angulato _v._ carinato, infra carinam parum convexo subplanato laevigato, intus varicibus 3 annotinis remotis 3–4-plicatis subseptato; umbil. mediocri subspirali profundo; apert. lunata, labris valde remotis; perist. tenui acuto, longe intus callo opaco-lacteo 3–4-plicato labiato.

Diam. maj. 9–10, min. 8–9½, alt. 5–6 mill. _Anfr._ 8–9.

_Hab._ in Madera, recens fossilisque rariss.


_Fruticicola_, (Held) sp. Alb. 71.

(Typ. _H. hispida_, L.)

_T. umbilicata_ v._ perf._ orbiculata convexo-depressa subcarinata ple-rumque hispida tenuis persepe fragilis fusca _v._ rufo-cornea, sape
pallido obscure unifasciata. Anfr. 5–6 lente crescentes, ult. antice non aut vix subdeflexo. Apert. late lunata. Perist. acutum brevissime expansum, intus plerumque albo-labiatum.
Obs. Testae subparvulae hispidae fuscae.

46. H. DEFLORATA. T. latissimale umbilicata orbiculato-depressa discoidea supra fere planata obtuse subcarinata nitidiuscula pallide corneae subcarneae efasciata, subitus circa umbilicum pallescens, utrinque obsoletae subgranulato- striolata rugosiuscula, striis confertis subundulatim connexivis interruptis inequalibus; spira planata-depressa vix convexiuscula, apice tabellata, satura distincta impressa; anfr. 6 planatis subprominenti-expressis, ultimis vix lente crescentibus, 3–4 primoribus tabellatis, ultimo superne obtuse angulato depresso, infra angulum parum convexo, antice deflexo; umbil. largo spirali profundo subpatulo s. parietibus lente declivibus depressis; apert. lunato-ovali, labris convergentibus subapproximatis; perist. tenui acute intus albo-labiatum.

Diam. maj. 11, min. 10, alt. 5½, axis 4 mill. Anfr. 5½.

Hab. in Madera, rariss. Exemplar junius spira conferta indeterminabile in Rib. de St. Luzia Maderæ, A.D. 1848 primus invenit cl. T. V. Wollaston. Alterum adultum integrum, animalis expers, sed parum decoloratum, prope locum Arrebentão dictum, ad alt. circiter 3000 ped. supra urb. Funchal. a Rousset detectum, communicavit T. S. Leacock 1853.

Obs. Testa efasciata calva verosimiliter statu perfectiore v. jun. hispida; H. rufescenti Penn. proxima! Differt, (1) spira tabellata; (2) carina obtusiore minus distincta; (3) anfr. ult. antice deflexo; (4) labris convergentibus subapproximatis (ne parallelis remotis); (5) striaturo peculiari obsoletiore sc. striis magis obsoletis interruptis hinc inde sparsim subgranulatis v. subundulatis (ne strictis continuis rectis distinctis); (6) anfr. ult. infra carinam minus convexo (ne circa umbil. alto declivi); (7) umbilici parietibus lente declivibus depressis.


Hab. in montibus excelsioribus Maderæ.
§ 20. Actinella.
(Typ. H. lentiginosa, Lowe.)


48. H. actinophora, Prim. 45. t. 5. f. 14; Pf. i. 146, 147.

Hab. in Madera recens fossilisque. In Insula Deserta Austr. recens semel occurrît.

49. H. arridens, Prim. 43. t. 5. f. 9; Küst. M. et C. p. 324. no. 827. t. 129. f. 40–42; Pf. i. 217.

Hab. in Madera.

50. H. lentiginosa, Prim. 49. t. 5. f. 25; Küst. M. et C. t. 154. f. 32–35 (male); Pf. i. 145.

Hab. in Madera.

51. H. stellaris, Syn. Diagn. 9. no. 39; Küst. M. et C. t. 155. f. 48–52. T. parvula umbilicata subcarinata orbiculata depresso subdiscoidea solidiuscula opaca vix substriata scobinata sublaxigata subnitidiuscula intensius fusca v. subnigricans raro v. obscure albo marmorata terra limove arcte obducta; spira depresso vix convexiuscula, apice glabo distincto nitente, sutura distincta impressa; anfr. 4 distinctis vix convexiusculis, ult. depresso distincte subcarinato eximie et equaliter membranae-calcarato, antice defexo; umbil. majuscule patulo aperto subspirali; apert. valde obliqua ovali-rotundata, labris approximatis v. conjunctis; perist. rite circinato continuo v. paulisper interrupto undique incassato-expanso decreto reflexo, plica ventrali nulla.

Diam. maj. 4, min. 3½, alt. 2 mill. Anfr. 4.

Hab. in Madera.

Obs. Characteribus priori, magnitudine sequenti proxima.

52. H. arcta, Prim. 42. t. 5. f. 7; Küst. M. et C. p. 236. no. 701. t. 112. f. 5–8; Pf. i. 404.

a. major crassior rudior, plica ventrali valida prominula distincta, perist. late reflexo.

β. paullo minor subdepressione tenuior minus grosse costellata, plica ventrali obsoleta v. nulla, perist. minus reflexo, perforatione submajore.

Hab. in Madera.
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§ 21. RIMULA.

Conulus, (Fitz.) sp. Alb. 72, 73. Hylostoma, sp. Alb. 95.

(Typ. H. cobresiana, Alt.)

callo-calosum.

53. H. arcinella. T. imperf. parvula convexo-depressa vic subglobulosa distincte carinata solidiuscula subcostulato-striata obsolete subscobinata; spira subconvexa, aliquando elevatiuscula subconoidea, sutura distincta impressa; anfr. 4½–5 convexiusculis, ult. antice deflexo ad apert. constricto-scorbiculato; perf. minima subnulla lamina peristomatis expansa subproducta appresa fere v. omnino clausa; apert. valde depressa transversa oblique lunata edentula, callo ventrali costceformi distincto labro parallelo adscendente nec intrante, labris remotis subparallelis aliquando callo junctis nuncum circinatis; perist. interrupto late presentim basi reflexo, intus basi vix subsinuato-
callolo edentulo.

a. major, callo basali vix ullo.

β. minima, callo basali subdistinctiore.

H. fausta γ, minima, Prim. l. c.

Hab. a. et β. fossilis ad Canical Maderæ.

Obs. Magnitudine H. arcæ proxima. Differt testa utrinque con-
vexiore subglobulosa spira plerumque elevatore, perf. lamina ap-
pressa (fere ut in H. arridente) producta fere v. omnino clausa, apert. depresso-lunata sape subquadrata (nec circulari), perist. in-
terrupto labris semper remotis subparallelis (nec circinatis) basi sape strictiusculo (nec semper arcuato), callo ventrali costeformi adscen-
dente v. subverticali (nec lunato-intraute v. nullo).

54. H. capsella. T. subrimato-perf. v. imperf. distincte et acute carinata orbiculata convexo-depressa vic subconoideo-globulosa arctispira arcte tenuiter substriolata striolisque spiralisbus vel subtilissimis alias decussantibus obsoleteis, tenuis hispida fusco-
refescens supra fere immaculata subitus albo-lentiginosa et fusco obscure unifasciata; spira conoideo-depressa; sutura distincta impressa; anfr. 5 planiusculis, ult. abrupte deflexo ad aperturam
constricto-scrobiculato; perf. minima callo columellari reflexo sepium vix, adulta omnino clausa; apert. valde depressa transversa lunata callo costavere ventrali oblique intrante rarissime distincto plerumque nullo, labris remotis disjunctis subparallelis, basali strictusculo; perist. interrupto expanso basi calloso-reflexo intus subsinuato vel obsoletissime sub-bicalloso edentulo.

Diam. maj. 5\(\frac{1}{2}\)–5\(\frac{3}{4}\), min. 5\(\frac{1}{4}\), alt. 4 mill. Anfr. 5.


Hab. in Madera.

Obs. 1. Species diu pro H. fausta degenerata supposita, rite distincta videtur. H. fausta nempe et H. arridenti intermedia, huic propior; sed forma minus depressa (nec lenticulare) utrinque convexiore, perforatione omnino minore fere v. omnino clausa, apertura minus angustato-depressa intus ad axin minus (nec “quasi cum rictu”) producta, testa lenticolorata et maculata differt.

Obs. 2. Callus v. costa ventralis, nisi in exemplis peradultis, imo vetustioribus, omnino deest.

55. H. fausta, Prim. 43. t. 5. f. 8; Pf. i. 422. T. imperfect. conoideo-globulosa subitus subinflato-convexa obtusissime subcari-nata arctispira arce et tenuiter substriolata tenuiuscula hispida fusco-cornua spira immaculata, anfr. ult. supra albo subtessellatim maculato, infra carinam fusco unifasciato et albo maculato, perist. extus late albo marginato; spira depresso-cenoidea elevatiuscula, sutura distincta impressa; anfr. 5\(\frac{1}{2}\)–6\(\frac{3}{4}\) convexiusculis, ult. abrupte deflexo ad apert. constricto-scrobiculato; perf. nulla v. omnino observata clausa; apert. valde depessva transversa angustate lunata, plica calloso ventrali distincto diffuso coarctata, labris remotis subparallelis lamina junctis, basali strictiusculo; perist. interrupto expanso, basi calloso-reflexo, collo extrorsum distincte unidentato v. tuberculato sc. in dentem tuberculumve distinctum abrupte desinente.

T. recens (exempl. orig.);

Diam. maj. 6, min. 5\(\frac{1}{4}\), alt. 4 mill. Anfr. 5\(\frac{1}{2}\).

T. fossiles;

Diam. maj. 6\(\frac{1}{2}\)–7, min. 6–6\(\frac{1}{2}\), alt. 4\(\frac{1}{2}\)–5\(\frac{3}{4}\) mill. Anfr. 6–6\(\frac{1}{2}\).

Hab. in Madera recens fossilisque rariss.

Obs. Forma globulosa-conoidea, subitus valde convexa, necon apert. unidentata cito dignoscitur. Recens semel occurrir. Descriptio ex exemplare originali adhuc unico recente in Primitis olim picto et descripto denuo desumpta: comparatis exemplaribus xii fossiliibus, omnino ad amussim illi congruentibus, preter “peristoma columnellam versus” vix “subsinuatum sc. obsolete bidentatum” (Prim. l. c.). In omnibus, nempe, rite v. rectius unidentatum dicitur: quamvis in uno fossili, sicut in exempl. originali unico recente, tuberculi v. plicae secundis remotiusculis inferioris (sc. axin versus) vel obsoletissimi vestigia quaedam adsunt.

56. H. obserata, Syn. Diagn. 9. no. 40. T. imperfect. distincte et acute carinata orbiculato-discoidea lenticularis, subitus præsertim
convexior, utrinque arcte et aque striata, striis infra carinam subsinuatis sphinctro-radiantis, striolis spiralibus vel subtilissimis alias decussantibus, tenuisscula calva subnuda v. hinc inde minute membranacea-lobinata lavigata nitidiuscula fusco-rufescens lentiginoso-maculata, supra carinam obscure, infra distincte fusce unifasciata, perist. extus late pallide ochraceo; spira convexo-depressa subplanata, sutura distincta; anfr. 5--5½planatis, ult. antice breviter deflexo subscrobiculari-constrictiusculo; perf. omnino obserata; apert. valde depressa transversa angustatunata plica calloventrali alba subcostaeformi adscendentem labro parallela subdistincta (raro nulla) coarctata, ad angulum inferiorem externum sub-biplicata, labris remotis lamina tenui junctis subparallelis, basali strictiusculo; perist. interrupto expanso, basali calloso-reflexo vix subsinuato, intus eextrorsum leviter biplicato, plicis binatis approximatis, exteriore obliquissima fere horizontali intrante.


Diam. maj. 6--7½, min. 5⅔--7, alt. 3¾--4½ mill. Anfr. 5--5½.
Hab. in Maderæ convallibus, rariss.

β. fossilis, paullo minor, plica exteriore dentiformi distinctiore, ab interiore (callum basalem terminante) obsoletiore sinu distincto separata.

Diam. maj. 5⅔--6⅔, min. 5--5⅔, alt. 3¾--4½ mill. Anfr. 5--vix 5⅔.
Hab. in Madera ad Canical foss. rarior.

57. H. calva, Prim. 49, 50. t. 5. f. 26; Küst. M. et C. p. 324. no. 826. t. 129. f. 37--39; Pf. i. 289, 290.

Hab. in graminosis apricis excelsioribus montium Maderæ; etiam fossilis: sat vulg.

§ 22. Callina. (Typ. H. rotula, Lowe.)


58. H. rotula, Prim. 53. t. 6. f. 10; Küst. M. et C. t. 13. f. 11, 12; Pf. i. 216.

Hab. in Portu S° vulgatiss.

Subvar. 1, fasciata major; 2, fasciata minor; 3, efasciata cera, 4, fasciata monstrosa, anfr. subsolutis, carina supra suturam prominente.

Obs. Spira nunc pyramidato-elevata nunc depressa sicut magnitudine admodum variabilis.
§ 23. Caseolus.

Ochthehila, Beck sp. Alb. 87.

(Typ. H. compacta, Lowe.)


59. H. consors, Prim. 51. t. 6. f. 3; Küst. M. et C. p. 147. no. 582. t. 92. f. 1, 2 (male); Pf. i. 195.

Hab. in Portu S\textsuperscript{o}.

Var. a. recens major, subtus laevigata (H. consors, Küst. l. c.); β. recens major, subtus sparsim subgranulata; γ. fossilis minor, subtus laevigata; δ. fossilis minor, subtus sparsim subgranulata.

60. H. calculus. T. rimato-subperf. subcarinata orbiculato-convexa solida crassiuscula, tota subtiliter utrinque eleganter et confertim granulosa, supra inconspicue v. remote striata, subflavescenti-cinerea, apice lavi fusco, fuscoque subindistincte bifasciata, aperturam versus pallide ochracea; spira convexa raro subconoidea, sutura distincta; anfr. 5\frac{1}{2}-6 convexis, ult. subus convexo, antice deflexo, ad apert. vix subcontractiusculo; perf. subrimato-punctiformi coarctata minima; apert. obliqua rotundata fere circinata, labris approximatis subconjunctis; perist. subcontinuo simpliciusculo acuto undique expanso subreflexo.

Diam. maj. 6\frac{1}{2}-8, min. 5\frac{3}{4}-6\frac{3}{4}, alt. 5-6 mill. Anfr. 5\frac{1}{2}-6.

Hab. in Portu S\textsuperscript{o} rariss.


Hab. in Madera et Portu S\textsuperscript{o} recens fossilisque.


Varr. insigniores: a. vulgaris, subconoideo-globulosa, spira elevatiuscula sublaevigata (Madera rec. et foss.); β. major (H. consorti accedens), cet. ut in a. (Mad. foss.) ; γ. Porto-sanctana (H. compacta, Küst. l. c.); depressior rudior, magnitudine variabilis, umbil. sepe subapertior nec constricto-rimato (Portu S\textsuperscript{o} rec. et foss.); δ. pusilla, parvula, supra fere, subtus omnino egranulata, umbil. apertiori spirali nec rimato, cet. ut in γ. (Portu S\textsuperscript{o} foss.).

62. H. commixta. T. subaperte et spiraliter perf. v. umbil. distinctor cirinata orbiculato-depressiuscula subarctispira solida supra inæqualiter hinc inde subplicato-costata, utrinque subtiliter
arenulato-granulosa cinerea v. pallide fusco-cinerea; spira convexe sepe depressa, sutura distincta; anfr. 5–6 planiusculis, ult. carinato, carina sepe linea exarata expressa, antice valde deflexa, ad apert. scrobiculato-constricto contracto; umbil. spiraliane rotundato aperto nec contracto-riiformi; apert. perobliqua rotundata v. oblique ovali circinata; perist. continuo relevato subsoluto undique reflexiuco-expanso acuto.

\[ a. \] major; subtilissime et confertim reticulato-granulata, carina linea subus exarata prominente, umbil. latiusculo.

Diam. maj. $5\frac{1}{2}$–6, min. $4\frac{3}{4}$–5$I\frac{3}{4}$, alt. $3\frac{1}{2}$–4 mill. Anfr. 5–6.

\[ H. \] recens in Portu Strariss.

\[ Obs. \] H. abjectae $\gamma$. proxima; sed multo subtilius granulata, minus plicata v. costata, umbil. largiore, &c.

\[ \beta. \] pusital; minor v. parvula, minus plerumque subtiliter et confertim granulata, carina sepe simplici.

Diam. maj. $4\frac{1}{2}$–5, min. $3\frac{3}{4}$–$4\frac{1}{2}$, alt. 3–$3\frac{1}{2}$ mill. Anfr. 5–$5\frac{1}{2}$.

\[ H. \] foss. in Portu Strariss.

\[ Obs. \] H. compactae $\delta$. magnitudine habituque simillima. Differt testa subus ut supra distincte granulata.


\[ Hab. \] in Portu Str.


\[ \beta. \] conuloida, minor: cet. ut in a. $\gamma$. subdepressa (H. abjecta, Kust. I. c.; H. candidata, Menke, II. cc.), minor orbiculata, spira plus minus subdepressa: cet. ut in a. v. $\beta.$ (status vulgatiss.). $\delta$. bicingulata, carina duplicata, spira ut in a. $\beta.$ $\gamma$. variaite.

64. H. sphærula, Syn. Diagn. p. 6. no. 21. T. parvula minutissime perf. v. subimperf. subcarinatæ turbinate-globulosa v. sphærioloida, aliquando conoidea v. trochoidea, arctischira solidula crassiuscula, utrinque grossiusculæ sparsim granulata arctique tenuiterque substriata nitidiuscula apicem versus levi; spira semiglobosa v. conoidea plerumque obtusissima, sutura distincta impressa; anfr. 5–7 convexiusculis lente crescentibus, ult. obsolete subcarinato subus planato, antice subito deflexo, ad apert. subcontractiusculo; perf. minutissima poriformi; apert. depressa transverse lunata subinuato-triangulari, callo ventrali basalique coarctata, axin versus angustata, labris remotis subconvergentibus lamina junctis; perist. interrupto simpliciusculo s. rectiusculo subexpanso, intus basi distincte calloso, ad axin lamina reflexa subproducta performationem partim obtegente.

Diam. maj. $4\frac{1}{2}$–7, min. $4\frac{1}{2}$–6, alt. $3\frac{1}{2}$–$5\frac{1}{2}$ mill. Anfr. 5–7.

\[ Hab. \] in Maderæ fossilis; in Portu Str et fossilis et recens. Rariss.

Tres adsunt status v. varietates: a. fossilis minor sphærioloida (Syn. Diagn. I. c.), Maderæ; $\beta$. fossilis submajor trochoidea, Portu Str; $\gamma$. recens major trochoidea, Portu Str: utroque, præsertim recente, rariss.
§ 24. Hystricella.

Ochthepla (Beck) sp. Alb. 87.

(Typ. H. bicarinata, Sow.)


65. H. bicarinata, Sow. in Zool. Journ. i. 58. t. 3. f. 7; Wood, Suppl. t. 8. f. 85; Küst. M. et C. pp. 141, 142. no. 574. t. 91. f. 8-11; Pf. i. 190. H. duplicata, Prim. 58. t. 6. f. 20; Pot. et Mich. Gal. p. 82. no. 40.

Hab. in Portu Sto, vulg.

66. H. echinulata, Prim. 57. t. 6. f. 19; Küst. M. et C. p. 140. no. 572. t. 91. f. 1-4; Pf. i. 189, 190.

Hab. in Portu Sto.—Subvar. 1. infra bifasciata, vulg.; 2. infra late unifasciata s. fasciis conflueutibus, rara.

Obs. Precedenti nimiris affinis et forsan mera var.

67. H. oxytropis, Prim. 57. t. 6. f. 18; Küst. M. et C. p. 142. no. 575. t. 91. f. 12, 13; Pf. i. 190.

Hab. in Portu Sto, rarius.

68. H. turricula, Prim. 58. t. 6. f. 21; Küst. M. et C. p. 141. no. 573. t. 91. f. 5-7; Pf. i. 190, 191.

Hab. in Insula Superiore (Ilhéo de Cima) juxta Portum Sun, nec alibi.

69. H. vermetiformis. T. anguste umbilicata distincte bicarinata pyramidato-conoidea solidula crassiuscula utrinque granulata; spira elevata anfractus ultimo quasi superimposita, carina inferioris suture distinctae superincumbente; anfr. 7-7½ planiusculis conspicue bicarinatis, carina inf. prominente sulco infra exarata, ult. antice valde deflexo; umbil. parvis, apert. ovali-rotundata circinata, labris continuis conjunctis; perist. undique soluto relevo tenui acuto.

Diam. maj. 8½-9, min. 8½-8⅔, alt. 7-8½ mill. Anfr. 7-7½.

Hab. fossilis in Portu Sto, T. V. Wollaston.

Obs. Anfractibus primoribus Vermeti cujusdam (e. g. V. lumbricalis, L.) simillima. Umbil. minor quam in H. cheiranthicola, fere ut in H. oxytropide; multo minor quam in H. pulvinata.

70. H. mustelina. T. perf. v. anguste umbilicata unicarinata obtuse conoidea subabbriviata solidiuscula undique grosse et contertiam saccharato-granulata exasperata subechinulata cinereo-fuscescens v. columbina, fusco anguste fasciata; spira subabreviato-conoidea apice perobtusa, sutura distincta subimpressa; anfr.
7-7½ planiusculis nec relevato-superimpositis nec supra suturam relevato-tumidis v. carinatis, ult. subobsOLEate carinato antice deflexo; umbil. parvo angusto subconstricto; apert. rotundata, labris subrenotis convergentibus callo junctis; perist. interrupto expansoreflexiusculo intus in angulum producto umbilicum coarctante. Diam. maj. 7-8, min. 6½-7¾, alt. 6¾-6¾ mill. Anfr. 7-7½.
Hab. in Portu Stò, T. V. Wollaston, 1849.
H. cheiranthicola, cui proxima, minor.

71. H. cheiranthicola, Prim. p. 57.
Var. β. tæniospira; spira fascia unica lata nigrigante, carina suturaque pallidis. H. cheiranthicola, Subvar. I. zonata, Prim. I. c. t. 6. f. 17; H. cheiranthicola, Küst. M. et C. p. 146. no. 581. t. 91. f. 31, 32; Pf. i. 212.
Hab. in Portu Stò, a. vulg., β. rario. Subvarr. in α: 1, subtus fasciis binis distinctis; 2, iisdem fere v. omnino confluentialibus; 3, fascia unica distincta superiore in fascias 2 v. 3 lineares secedente; 4 (Prim. I. c. Subv. 3, albida), albida, fasciis evanidis v. nullis. In β: 1 (Prim. I. c. t. 6. f. 17), 2, 3, ut in α.

§ 25. Discula.

Ochthehila (Beck) sp. Alb. 88.
(Typ. H. polymorpha, Lowe.)


72. H. polymorpha. T. subglobulosus-conoidea subitus convexa undique grosse saccharato-granulata scabra, carina obtusiuscula submedia, sepe linea subitus exarata expressiuscula, spira plus minus elevata; anfr. 8 fere convexiusculis sutura subimpressa distincta; umbil. mediocri subspirali profundo, parietibus subdeclivibus abruptis. Diam. maj. 9½-12, min. 9-11, alt. 7-8 v. 9 mill. Anfr. 7-8.
Var. a. pallescens; spira maculato-pallida, linea supra carinam fusca spirali sepe evanescente.
Subvarr.: —1, subtus distincte bifasiciata; 2, fasciis duabus subtus latissimis fere v. omnino in unam confluentibus; 3, subtus unifasciata, fascia 2a exterioire evanescente (Prim. l. c. t. 6. f. 11); 4, fasciis omnibus utrinque evanidis sc. angustissimis v. nullis.

Hab. in Promont. St Laurentii Maderæ; 1 et 3 vulgatiss., 4 rarior, 2 rariss.

Var. β. nigricans; spira fasciato-nigrigante, fascia unica lata nigro-coffæacea, carina modo suturaque pallidis.

Subvarr. 1, 2, 3 ut in α; 4 deest.

Hab. praesertim in Insula quadem juxta Prom. St Laurentii, Ilheo de Fora dicta, rarior: Subv. 1 vulgatior.


73. H. pulvinata, Syn. Diagn. 6. no. 22. T. albida depresso-conoidea undique subexquisite granulata subtus planiuscula s. plano-convexa, carina acutiuscula fere sed leviter expressa sub-infera; spira conoideo-elevata pulvinata sc. anfractui ult. subito latriore tumidulo quasi superimposita v. insidente, anfr. 7/2 convexiusculis, inf. sape tumidulis, sutura impressa distincta; umbil. patulo latiusculo spirali profundo; apert. subangulata, perist. sinuato.

H. polymorpha ζ, pulvinata, Prim. 56. t. 6. f. 16.

Diam. maj. 9–11, min. 8-1/2–10, alt. 7–8 mill. Aufr. 7–8.

Subvarr. 1, spira vix submaculata, subtus efasciata; 2 (Prim. l. c. t. 6. f. 16), spira maculata, subtus fasciis 1–2 plus minus continuus.

Hab. in Portu Sº rarior.

Obs. Differt ab H. polymorpha testa pallescente albida, apice fusco-cerulescens, minus grosse granulata, subtus planiore, umbil. majore latiore nec parietibus adeo declivibus, carina subacutio inferiore, sutura magis impressa, aufr. semetipsis v. ultimo abrupte latiori supra tumidulo quasi superimpositis.

74. H. attrita, Syn. Diagn. 7. no. 23. T. pallide cornea depresso-discoidea subtus convexa solida undique tenuiter et exquisite reticulato-granulata, carina supera acuta sape expressiuscula; spira convexo-depressa, anfr. 7 planatis attritis, sutura obsoleta; umbil. infundibuliformis, parietibus abrupte declivibus; apert. angulata sape subtrigona, intus coarctata, perist. subsinuato intus valde incrassato-calloso subplicato calloque sape ventrali distinto.

H. polymorpha δ. attrita, Prim. p. 55; H. tectiformis, Wood (nec Sowerby).

Diam. maj. 8-1/2–10-1/2, min. 8–10, alt. 5-1/2–6 mill. Aufr. 6-1/2–7.

Subvarr.: 1, pallida, supra maculato-variegata, subtus fusco angustue 1–2–3-faschiata (Prim. l. c. t. 6. f. 14; Wood, Suppl. t. 8. f. 83); 2, fusco-coffæacea, subtus eirca umbil. pallida; 3, tota variegata, fascis evanescentibus.

Hab. in Portu Sº vulg.
Obs. Forma et habitu peculiari ab affinis omnino distincta statim dignoscitur. Anfr. ult. peristoma versus late ochraceo-albidus, fascis evanescentibus.


Diam. maj. 6-7½, min. 5½-7, alt. 3-3½ mill. Anfr. 5-6.

Hab. in Madera, rara.


76. H. senilis. T. grisea fusco lentiginosa et fasciata convexo-depressa v. depresso-discoida plerumque limbato-carinata solida undique grosse albo-granulata scabra, carina acuta sepissime expresso-prominente subsupera; spira plerumque depressa subplanata, anfr. planatis subatritis, sutura obsoleta; umbil. spirali, vix (in exemplis adultis majoribus vetustioribus) subpatulo majore.


Var. a. nebulata; spira lentiginosa-maculata, fusco unilineata.

Subvarr.: 1, subitus fusco bifasciata; 2, fascis subitus duabus fere v. omnino confluentibus; 3, subitus unifasciata; 4, omnino efasciata albida.

Diam. maj. 7-13, min. 6½-11, alt. 4-6½ mill. Anfr. 6-7.

Var. β. vittata; spira late fusco unifasciata, carina suturaque palidis.

Subvarr.: 1, 2, 3, 4 ut in α: 2 duas habet formas; α, spatio circa umbil. pallido sat largo; b, eodem angustissimo.

Diam. &c. ut in α.

Var. γ. pusilla; parvula subconoidea, spira elevatiore.

Diam. maj. 5½-6½, min. 5-6, alt. 4-4½ mill. Anfr. 6-6½.

Hab. in Ins. Desertis, α vulgatiss., β vulg., γ (in Ins. Des. Austr.) rariss., α etiam in Madera ad Canical foss.


77. H. lincta, Syn. Diagn. 7. no. 27. T. cinerea, sæpe roseo-purpurascens suffusa, fusco-purpureo maculata et fasciata convexo-depressa orbiculato-discoida obtuse carinata tenuiuscula, supra tenuiter, subitus obsolete granulata leviuscula lucida quasi lincta; carina obtusa exacte media nunquam expressa; spira convexo-depressa, anfr. 7 convexiusculis distinctis, sutura impressa; umbil. spirali subpatulo medioci.

Var. a. rosea; major roseo-purpurascens, spira fusco subtessellatim maculata, fascia linearis fusca supra, 1-2 infra carinam, exterioire sæpe in plures lineares soluta.
H. polymorpha β. depressiuscula, Prim. 54. t. 6. f. 12.
Diam. maj. 9 1/2–11 1/2, min. 9–10 1/2, alt. 5 1/2–6 1/2 mill. Anfr. 6 1/2–7 1/2.
Hab. in Madera Promont. Garajão versus.
Var. β. cinerea; minor pallida, spira fusco lentiginoso-maculata.
Diam. maj. 7–10, min. 6 1/2–9, alt. 5–6 mill. Anfr. 6 1/2–7.
Hab. recens ad Canical Maderae.
Obs. Color roseo-purpurascens mox evanidus, in β inconspicuus.

78. H. papilio, Syn. Diagn. 7. no. 28. T. lātē porcellano-lactea
fulvo lentiginosa et fasciata convexo-depressa orbiculato-discoidea
distincte carinata solidiuscula, supra subtiliter arenulato-granulata,
subtus nitida lāvis planiuscula sc. plano-convexa; carina
subacuta exacte media nunquam expressa; spira convexiuscula
subulvinata sc. anfractui ult. antice subito latiori tumidulo
insidente; anfr. 7 1/2 planatis attritis, sutura (nisi antice) obsoleta;
umbil. patulo spirali latiusculo; apert. subangulata.
H. polymorpha ε. calcigena, Prim. 56.
Diam. maj. 10–12, min. 9 1/2–10 1/2, alt. 6–6 1/2 mill. Anfr. 7–8.
Subvar. 1, efasciata omnino fere candida, supra obscure maculata
(Prim. l. c. t. 6. f. 15); 2, subtus 1–2-fasciata, fasciis sēpe interruptis,
nunc distinctis, nunc confluentibus, fascia exteriose nunc in
plures soluta, nunc evanescente, supra distinctius maculata.
Hab. in Ins. Infera (I. de Baxo) juxta Portum Sturn rario.
Obs. Species inter H. pulvinatum et discinam media, utrique adeo
affinis ut neutri magna sine perturbatione v. confusione conjungi
potest. Ab utraque scilicet carina hand expressa testaque subtus
nitida lāvi i. e. fere (nisi interdum casu ut videtur quodam antice)
egranulata differt. Testa subtus magis planata, spira minus elevata
nec conoidea, carina magis acuta, umbil. minus profundo, quam in
H. pulvinata: testa subtus minus planata, spira paullo magis elevata,
carina minus acuta, umbil. subcontractiure subprofundiore quam in
H. discina. Granulatio potius H. discinae supra: sc. quodammodo
subtilior obsoletiorque quam in H. pulvinata. Cuilibet eam pro
forma H. pulvinatae depressa habenti oppugnatas, nou modo forma
depresso-discoidea spiraque minus alta minime conoidea, sed et anfr.
planati attriti suturaque (nisi paululum antice) obsoleta, necnon carina
acutior non expressa. Ab H. discina tamen spira subaltiori subulvinata,
sutra antice subimpressa, testa subtus convexiore, anfr. ult.
minus depresso antice supra tumidulo, carina minus acuta nec limbata,
umbil. subcontractiure paretius fere declovioribus, apert. sub-
angulata, quamvis ad illam habitu vel proxime accedens, characteri-
bus magis recedit.

79. H. discina, Syn. Diagn. 7. no. 29. T. fulva v. cinereo-fulvescens supra sublentiginosa subtus fusco-fasciata, orbiculato-
discoidea utrique subplanata acutissime carinata, supra subtiliter,
subtus vel subtilissime et reticulatim obsolete granulata, subtus
præsertim nitidiuscula planata; carina peracuta expressiuscula sublimbata exacte media; spira convexo-depressa, anfr. 7 planatis attritis, ult. valde depresso complanato, sutura obsoleta; umbil. largo patulo spirali minime profundo.

Subarr. 1, supra fusca submaculata, infra pallida fusco fasciata, fascia plerumque unica distincta; 2, tota fusca subunicolor praeter spatium latum pallidum circa umbilicum; 3, tota pallida efasciata.

Hab. in Portu S[t]o vulg.: 3 rariss.


Diam. maj. 17–19, min. 16–17, alt. 8–9 mill. Anfr. 7–8.

Hab. in Portu S[t]o. Inv. T. V. Wollaston.

Obs. Testa ob magnitudinem inter affines insigniorem coloresque pulchre testudinales eximia. Linea spirali fusca distincta, supra carinam in medio anfractuum per spiram continuata, carina quasi duplicata videtur.

§ 26. Tectula.

Trochomorpha, sp. Alb. 116.

(Typ. H. Bulveriana, Lowe.)


Diam. maj. 13½–15½, min. 12–14, alt. 7–8 mill. Anfr. 8–8½.

Subvarr. 1, subtus bifasciata; 2, fasciis subtus duabus in unam latam fere v. omnino confluensibus; 3, subtus unifasciata, 2\textsuperscript{da}e exteriori evanescente.

Obs. T. supra oculo armato obsolete confertissime spiraliter striata; subtus paullo infra carinam obsolete subgranulata, medio (ut supra) omnino egranulato laevi.

82. H. Albersii, Syn. Diagn. 8. no. 32. T. umbilicata depresso-trochiformis utrique subtuliter granulata cerino-cornea fusco fasciata, carina media, subtus convexiuscula; spira obtuse subconoidea depressa, sutura obsolete; anfr. 8, ult. sublimbato-carinato antice deflexo et infra carinam paulum descendente; umbil. profundo; apert. transverse ovali depresso; perist. incrassato-reflexo aquali, extus ad carinam haud angulato, labris subconventibus interruptis lamina tenuissima rectilineari aliquando junctis.

Diam. maj. 14–16, min. 13–15, alt. 8–9 mill. Anfr. 7\textsuperscript{2}–8.


Hab. in Portu S\textsuperscript{o} cum H. Bulveriana vera commixta.

Subvarr. 1, fasciata; 2, virescenti-citrina v. pallide prasina, omnino efasciata et immaculata, rariss.

Obs. Striolarum spiralium vestigia inter granulationes obsoleteissima oculo armato sedulo scrutanti apparent.


Hab. in Portu S\textsuperscript{o}.

Duee adsunt varr. : α, spira planata; β, subminor, spira elevatiore. Subvarr. utriusque var. etiam due : 1, subtus distincte fasciata (Prim. l. c. t. 5. f. 11); 2, fasciis confluensibus.

Obs. Differt ab H. Albersii testa (presertim jun.) depressiore tenui subtus planata, spira obtusio cupuloideo-rotundata, carina inferra, late limbata, apert. angulari, peristomate recto simpliciusculo, anfr. ult. haud infra carinam descendentem, colore. Striolarum spiralium ne minima quidem vestigia detexi.

84. H. tectiformis, Sow. in Zool. Journ. i. p. 57; Prim. p. 45; Pf. i. 208; Küst. M. et C. p. 158. no. 599.

Hab. in Portu S\textsuperscript{o} et in I. de Baxo juxta Portum S\textsuperscript{am}.

Subvarr. tres: 1, tota cretaceo-candida (Sow. l. c. t. 3. f. 6; Prim. l. c. t. 5. f. 12; Küst. M. et C. l. c. t. 94. f. 13–15); 2, fusco supra 1, subtus 2-fasciata; 3, fusco supra 1-fasciata, subtus fasciis confluensibus.

Obs. Umbil. magnitudine pervariabilis.

§ 27. Craspedaria.

(Typ. H. Delphinula, Lowe.)

T. perspective umbilicata depresso-trochoidea obtusa latissime limbato-carinata cancellatim striolata subtus spiraliter costellata.

Obs. Sectio Cromis veris (Crenece, Alb. pars) per H. cariosam, Oliv. subaffinis, carina quasi foliaceo-membranacea crispula subplicata v. sinuata erosulo-crenata, nec non umbilico Solariformi patulo perspectivo intus crenato-granuloso per quam mirabilis.


Diam. maj. 18-23, min. 15½-21, alt. 10-11 mill. Anfr. 7-8.

Delphinea, Bowdich, Exc. in Mad. 140. f. 33 a, b.

Hab. fossilis ad Canical Maderæ vulgatiss. : nec alibi!

Obs. Umbil. magnitudine subvariabilis.

§ 28. Coronaria.

Ochthephila, (Beck) sp. Alb. 87.

(Typ. H. tiarella, Webb.)


Obs. Sp. fere cretaceo-albidæ, omnes forsæ subterraneæ.

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Hab. ad Canical Maderæ vulgatiss. foss. nec recens. Prorsus errore inter species Canarienses enumeratam credo.
Obs. Umbil. magnitudine pervariabilis.

87. H. coronula, Syn. Diagn. 8. no. 34. T. late umbilicata convexo-depressa subdiscoidea solidiuscula opaco-cretacea sub-bicarinata, subitus exquisite cancellatim costellata; spira convexo-depressa coronata; anfr. 5–6 contabulatis s. supra carinam superiorem prominentem sinuato-dentatam planum et foveolatim tuberculoplicatris, tuberculis aequidistantibus radiantibus, sutura distincta; umbil. largo patulo pervio profundo; apert. rotundata subtus triangulæ constrictæ; perist. undique soluto expando sinuato acuto.
Obs. Species elegantissima, subitus insigniter ac pulchre spiraliter costata et sulcata costellisque transversis decussantes insigniter costata; costis subseptenis exquisite expressis, superioribus subprominentioribus, summa carinam inferiorem subindistinctam formante.

88. H. coronata, Desh. T. late umbil. orbiculato-discoidea planulata solidiuscula subhyalina bicarinata, supra pallide rufescens, subitus subopaco-lactea costisque ab umbilico divergentibus flexuo his remotis infra carinam inferiorem limbatis-prominentem integram rotato-radiata; spira subconvexo-depressa subcoronata; anfr. 5, carina superiore oblique tuberculato-plicata distinctissimæ, sutura excavata, carina inferiore simplici acuta limbatis; umbil. largo patulo pervio profundo; apert. sinuato-triangulæ constrictæ tuberculo maximo ad labrum intus prominente coarctata; perist. undique soluto expando sinuato tenui acuto.
Diam. maj. 5½–6½, min. 5–6, alt. 3–3½ mill. Anfr. 5–6.
H. coronata, Desh. in Fér. Hist. i. 71. t. 69 K. f. 1-4 (statu fossili).
H. juliformis, Syn. Diagn. 8. no. 35 (Febr. 1852).

§ 29. Placentula.

Ochtheephila, Beck, sp. Alb. 87.
(Typ. H. maderensis, Wood.)

T. aperte plerumque late umbilicata orbiculata depresso-lenticularis angulato-carinata solidiuscula costellato-striata subtiliter granulata glabra nitidiuscula plerumque fasciata. Anfr. 5–7 leniter


89. H. compar, Prim. 48. t. 5. f. 23; Pf. i. 214. Hab. in Madera.

90. H. maderensis, Wood, Suppl. t. 8. f. 84; Prim. 48. t. 5. f. 22; Küst. M. et C. pp. 147, 148. no. 583. t. 92. f. 9, 10; Pf. i. 213.


91. H. spirorbis, Syn. Diagn. 6. no. 36. T. parvula latissime umbilicata depresso-lenticularis planiuscula subobtuse angulato-carinata tenuiuscula, supra tota granulata et confertim argute substriata, subtus leviuscula lucida aperturam versus subgranulata, utrinque obscure fusco unifasciata subunicolor fasciis evanescentibus; spira planato-depressa, apice obtusissima; anfr. 5 convexiusculis, sutura impressa distincta; umbil. ampio patulo profundo perspectivo, pari ete plano; apert. rotundata oblique subovali; perist. undique soluto subexpanso albo. Diam. maj. 5–5½, min. 4–4½, alt. 2½–2⅓ mill. Anfr. 5. Hab. in Madera rariss.

92. H. leptosticta, Prim. 49. t. 5. f. 24; Küst. M. et C. t. 152. f. 9, 10; Pf. i. 214. Hab. in Madera.

Subvarr. 1, cuprea v. purpureo-fusca, circa umbilicum lactescens, distinctius bifasciata; 2, pallida, cornea, fascis evanidis. Nisi vero in exemplaribus recenter captis subvarr. ægre distinguuntur; colore purpureo v. rosso cito evanescente.

93. H. micromphala, Syn. Diagn. 9. no. 38. T. subrimato-umbilicata orbiculata subglobulosa depressa obtuse subcarinata tenuiuscula tota confertim et reticulatim arenulato-granulata, subtus sublevior lucida subpellucida aperturam versus opaco-lactescens, fusco infra carinam obscure unifasciata; spira convexa exsertiuscula, anfr. 6 convexiusculis, sutura distincta; umbil. perparvo subrimato-poriformi vix spirali; apert. oblique ovali
subcontracta; perist. vix undique soluto contractiusculo simplici acuto albo.

Diam. maj. 7-8, min. 6-7½, alt. 4-5 mill. Anfr. 6.

Hab. in Insulis Des. Majore et Minore vulg.

94. H. DEALBATA, Prim. 48; Küst. M. et C. p. 262. no. 245. t. 38. f. 20, 21; Pf. i. 166.

Hab. in Portu St°.

Var. α, (Prim. l. c. t. 5. f. 21) tota distincte granulata; β, (H. dealbata β, Prim. l. c.; H. fictilis β, Syn. Diagn. 9. no. 37) granulis subobsoletis leviscuscula; γ, fere minor obscure bifasciata, in H. fictilem quodammodo transiens.

95. H. FICTILIS, Syn. Diagn. 9. no. 37. T. latiuscule umbilicata orbiculato-depressa planato-lenticularis subacute angulato-carinata solidiuscule levigata obsolete v. indistincte hinc inde, præsertim supra, subgranulata, substus nitida levis ad carinam fusco sæpissime bifasciata, ore ochraceo; spira convexo-depressa anfractui ultimo antice tumidulo quasi superimposita; anfr. 5-5½ subplana-nulatis hinc inde radiussculae oblique striatis l. subplicatis, sutura subindistincta antice impressa; umbil. latiuscule subspirali patulo, pariete planato; apert. rotundato-ovali; perist. undique soluto relevato, incrassato expansiusculo ochraceo.

Diam. maj. 7-8, min. 6-6½, alt. 3½-4 mill. Anfr. 5-5½.

Hab. in Portu St° gregaria.

Subvarr. 1, plus minus fusco-castanea, fusco bifasciata; 2, pallescens, fusco bifasciata; 3, decolorata alba, fascis evanidis v. nullis (H. fictilis, Küst. M. et C. t. 154. f. 29-31, opt.).

§ 30. CARACOllINA, Beck.

Gonostoma, (Held) pars, Alb. 94.

(Typ. H. barbula, Charp.)


Obs. Hispidellæ (necon Euromphalæ) per H. actinophoram in Actinellis hue quoque spectantibus affinis.


Hab. in Madera; et in Portu St°, T. V. Wollaston.
§ 31. Cheilotrema, Leach, Alb. 117.

Latomus, Fitz.

(Typ. H. lapicida, L.)

*Cheilotrema,* Leach, Alb. 117.

*Latomus,* Fitz. (Typ. *H. lapicida*, L.)


97. *H. lapicida, L.* Drap. 111. t. 7. f. 35–37; Rossm. i. p. 63. t. 1. f. 11; Gray, Man. 140. t. 5. f. 51; Pf. i. 370. *Carocolla lapicida,* Lam. Hist. vi. 2. p. 99.


*Obs.* Diu et sedulo scrutanti, ad amussim cum exemplaribus Britannicis recentibus exemplar vel optime conservatum fossile hoc pretiosissimum, mihi comparandi causa benignissime commissum, omnino congruere compactum est.

§ 32. Lampadia, Alb. MSS.

*Mitra, Alb.* 115.

(Typ. *H. Webbiana,* Lowe.)


*Obs.* Helicophantce, Beck, per *H. cornu giganteum,* Chemn., nec non Corasice, Alb. affinis. Nomen annuente cl. auctore mutandum, ob genus notissimum *Mitram,* Lam.

98. *H. Webbiana,* Prim. 44. t. 5. f. 10; Fér. Hist. i. 344. t. 28 A. f. 7, 8; Küst. M. et C. p. 306. no. 300. t. 52. f. 5, 6; Pf. i. 219.

*Hub.* in *Portu S*°.

§ 33. Iberus, Montf.

*Crenea,* sp. Alb. 78.

(Typ. *H. Gualteriana,* L.)

*T. imperfect. vel obiecte perf. spiriplana subdiscoidea compresso-carinata subtus convexa solidiuscula subconcolor obscure fasciata fere
decolorata cretacea nuda plicato-striata granulata v. reticulata. Anfr. 4-5 cito crescentes plani, ult. carina fere limbata et per spiram ad suturam prominente, antice valde deflexo. Apert. lunato-securiformis s. transverse ovato-rhombœa subquadrangularis ad carinam angulata, labris conniventibus callo laminave junctis. Perist. supra rectum simplex, infra carinam reflexiusculum, axin versus calloso-incrassatum, arcualim axi junctum.


§ 1. Elisma, Leach.

Cochlicellus, (Beck) Alb. 178 (uec Fér.).

(Typ. B. acutus, Müll.)


100. B. ventrosus, Fér.; Prim. 62. no. 60; Pf. ii. 215. B. ventricosus, Drap. 78. t. 4. f. 31, 32; Rossm. vi. 41. f. 377. Helix acuta, Webb. et Berth. Syn. p. 13. no. 21 (uec Müll.). Hab. in Madera vulg. in Portu Sīro rara. Duo adsunt varr. : σ, ventricosior ovato-conica abbreviata efas-
ciata; \( \beta \), gracilior ovato-turrita fasciata, figuris Drap. supra cit. omnino consimilis. *Obs. B. solitarius*, Poir. (*Helixconoidea*, Drap.) verus in Madera nondum detectus est.

\[ \text{§ 2. Rumina, Risso, Alb. 176.} \]

(Typ. *B. decollatus*, L.)

*T. subrimata* cylindrico-elongata max decollato-truncata lucidiuscula pallide rufo-cornea unicolor. Anfr. 4—6, primoribus 8—10 amissis. 

Apert. ovata, spira multo brevior. Perist. rectum simpliciusculum obtusum incrassatum, labris callo junctis.

101. *B. decollatus*, L. Prim. 62. no. 61; Drap. 76. t. 4. f. 27, 28; Webb et Berth. Syn. p. 14. no. 1; Phil. i. 139. t. 8. f. 14; Ross. vi. p. 45. f. 384; Gray, Man. 5. t. 6. f. 60; Pf. ii. 152, 153. 

Hab. prope urbem Funchal: Madera.


\[ \text{§ 1. Zua, Leach.} \]

*Cionella*, Jeffr. sp. Alb. 198.

(Typ. *A. lubrica*, Müll.)


102. *A. maderensis*. *T. minuscula* pellucida splendidé nitens angustato-oblonga graciliuscula ab anfr. ult. usque ad apicem subattenuata; anfr. 6 convexiusculis; apert. testæ latitudinem sc. \( \frac{3}{4} \)—4 longituninis aequante; column. distincte arcuata basi obsoletissime truncatae v. emarginatae in labrum attenuata. 

Longit. \( \frac{4}{3} —\frac{5}{4} \), diam. \( \frac{3}{4} —2\frac{1}{4} \) mill. Apert. \( 1\frac{3}{4} —2\frac{1}{2} \), spira 3—\( 3\frac{1}{2} \) longa. Anfr. 6. 


Hab. in Madera vulg. 

*Obs. T. corneo-umbrina*, animali foeta nigricans.
§ 2. **Ferussacia, Risso.**

*Cionella*, sp. Alb. 198.

(Typ. *A. folliculus*, Gron.)


103. *A. folliculus*, (Gron.) Phil. i. 141. t. 8. f. 27; Rossm. ix., x. 34. f. 656; Pf. ii. 283; Fér. Hist. ii. 170. t. 134. f. 28-30. *A. follicula*, Pot. et Mich. 127. no. 4. *Ferussacia Gronoviana*, Risso, Hist. iv. 80. t. 3. f. 27.

Test. juv. (abbreviato-ventricose), Phil. loc. cit. f. 27a; *Physa scaturiginum*, Drap. 56. t. 3. f. 14, 15; *Vediantius eristalius* (crystalus?), Risso, l. c. 82. t. 3. f. 24.

*Hab.* rara in apricis ad terram inter dumeta *Opuntia Tunæ*, Dill. prope urbem Funchal. Maderæ. Primus detexit T. S. Leacock.

*Obs.* In exempl. Lusitanicis, a cl. Höll olim lectis, *colum.* basi magis quam in Maderensibus prominula.

104. *A. gracilis*. *T. minuscula* angustata turrita splendide nitens pallide fulvo-cornea v. hyalina fusiformis utrinque attenuata gracilis; spira producta gracili-attenuata subacuminata minus obtusa, anfr. 7 æqualibus æquicrescentibus planatis; *apert.* spiram subæquante v. illa distincte brevior; labro strictiusculo vix convexo-arcuato; *colum.* basi obsoleta vix ne vix prominula v. truncata in labrum attenuata.


*A. Terebella*, Syn. Diagn. 11. no. 47.

*Hab.* in monte Pico Branco, et in jugo orientali Insulam Superam (I. de Cima) versus Portús S¹, Wollaston.


*Hab.* in Ins. Supera (I. de Cima), necnon in cacumine extremo orientali Portús S¹ adjacente, huic adverso.


Obs. 1. Status potius \( \beta \) juvenilis pusillus quam var. vera distincta videtur. Testae nimium 2—4½ mill. ( nec ultra) longae laevissimae splendide nitentes hyalinae v. eolorato-vitreae (emortue opaco-lactee) tenuissimae fragillimae abbreviato-subcylindricae v. angustato-pupiformes obtusissimae subturritae, diam. pro ratione majore, spira breviuseula obesiuseula ( nec gracili-attenuata), anfr. 3—5 v. 5½ sæpe convexusculus ( nec omnino planis), apert. sæpe spiram subæquante vel paullum superante. Tales in jugo inter montes P. de Facho et P. de Castello, neenon in Ins. Des. Majore, a el. Wollastonio lectas, quales omnino in monte Pico Branco Portús Sti A.D. 1828 et 1832 in Prim. l. e. scriptas et depictas ipse legi, pullos v. statum juvæilem testarum plurium (var. \( \beta \) supra) nuperius ab amiciss. auctore in Insula Supera (I. de Cima) et in jugo adjacente adverso Portús Sti, Pico de Baxo versus, necon in eodem ipso Pico Branco lectarum, exemplaribus permutis diu sedulique iterum iterumque scrutatis, potius quam varietatem alteram distinctam constituentes, habemus. Testae nempé omnes var. \( \beta \), præter characteres in adultis notissimos, sc. testae majoris colorate ( pallide corneae) firmioris aemioris v. gracilioris, aperturaque pro ratione breviioris, nihil costans distincti præbent. Sed vitæ confusiones causa, testas sub \( \gamma \) designatas in présens pro varietate admisi.

Obs. 2. Ab *A. folliculo*, Gron., quacum a nonnullis confusa, species toto caelo distincta.

§ 3. *Acicula*, Risso.

(Typ. *A. acicula*, Müll.)


Obs. T. minutæ hyalino-tenuissimæ fragillimæ angustato-elongatae. Facies *Eulima*.


*Hab.* in Madera recens (sub lapidibus post pluvias) vulg. et in Ins. Des. Majore (testa angustissima gracillima parvula), Wollaston.

distincta; lamina ventrali subcalloso-relevata cum colum. soluto-relevata subreflexa (vix truncata?) in labrum arcuato-attenuata continua.

Longit. (spira diffraco-decollata) 4, diam. $\frac{3}{4}$ mill. Apert. $1\frac{1}{4}$ v. $1\frac{1}{2}$, spira $2\frac{1}{4}$ longa. Anfr. superstites 4, (2 v. 3 forsan amissis).

Hab. in Portu S$\text{to}$ subfoss. rariss. Exemplar unicum speciei distintissimse ac elegantissimse, apice spirae diffraco-amisso, ceterum optime conservatum nitens et subcoloratum pallide corneum v. testaceum (an vere extincta?) in arena calcarea ad Zimbral d'Aréa detexit cl. Wollaston.


(Typ. $A$. producta.)


Obs. $T$. majusculae sat firmæ subopace forma Mitræ cujusdam elongata.

107. $A$ producta, Syn. Diagn. 11. no. 48. $T$. majuscula sat cum subpellucida turrita subcylindraceo-subulata gracilis elongata, spira producta; anfr. 8 planis æquissimis, sutura subindistincta obliqua; apert. angustato-elliptica, supra attenuato-acuminata retroque oblique lineari-coarctato-producta, spiræ subequali; perist. intus marginato s. opaco-ochraceo incrassato, labro medio arcuato-prominente; colum. abbreviata, basi abrupte prominula torta truncata.

Longit. $8\frac{1}{2}$, diam. $2\frac{1}{2}$ mill. Apert. $4\frac{1}{4}$, spira $4\frac{1}{2}$ longa. Anfr. 8.

Hab. in Ins. Des. Austr. rariss.

§ 5. Amphorella.

(Typ. $A$. tornatellina.)


Obs. Paries apert. ventralis sursum plica lamellata lineari minuta subverticali, medio intus tuberculo obscuro obsolete munitus.
108. A. mitriformis, Syn. Diagn. 11. no. 49. T. mitriformis elliptico-fusoida oblongiuscula pellucide fulvo-cornea; spira producta elongata latitudinem sœpissime excedente conoidea, sutura albo marginata; apert. angustato-elliptica supra acuminata retroque oblique coarctato-producta; perist. sinuato, labro medio arcuato-prominente subinflexo; colum. basi abrupte prominula torta truncata.

Varr. duæ:

a. major gracilior.


b. subminor paullo subventricosior, plica ventrali superiore magis expressa distinctius dentiformi.

Longit. 7—9, diam. 3—3½ mill. Apert. 4—5½, spira 3—4½ longa. Anfr. 6—7.


109. A. tornatellina (Helix C.), Prim. pp. 59, 60. Magnitudine admodum variabilis. Distinguuntur varr. duæ:

a. major fulvo-castanea v. castaneo-umbrina.


A. tornatellina, Pf. ii. 277 (excl. var. b.).

Hab. recens in Maderæ sylvis convallibusque ubique; fossilisque ad Canical rara.


Longit. 11½, diam. 5½ mill. Apert. 7½, spira 4 longa.

b. minor pusilla subpallidior subpallium minus ventricosa; apert. plica superiore magis abbreviato-expressa distinctius dentiformi, dente tuberculove medio ventrali subdistincto; colum. basi minus abrupte prominula.


Icon. Prim. l. c. t. 6. f. 23 (aucta) opt.


Obs. A. mitriformi b, accedit analoga, in illam subtransiens. Differt testa ventricosiore, spira breviore.

110. A. melampoides (Helix C.), Prim. 60. no. 55. T. auriculariformis ovato-oblonga, latitudine spiram excedente solida crassiuscula confortim obsoletissime et subtilissime spiraliter striata, pallide ochraceo-lactescens v. eburnea subopaca; spira abbreviata
conoidea; apert. obovata deorsum subeffusa supra acuminata vix retro producta, plica tuberculcoque ventralibus obsolertissimis sub-nullis; perist. vix sinuato v. arcuato-prominente, strictiusculo deorsum expanso; colum. basi obsolietiuscula v. subprominula vix torta subobsolete s. obliquissime truncata.


Hab. in Ins. Supera (Ilheo de Cima) juxta Portum S su, et in Portu S po ipso (nec alibi) recens fossilisique.

Speciei distinctissimae duae adsunt varr. v. subvarr.:

Prim. l. c. t. 6. f. 24 (magnit. natur.) ; Reeve, Conch. Icon. Achat. t. 22. f. 122 (aucta)!

A. tornatellina, β. Pf. ii. 277.

§ 6. Fusillus.

(Typ. A. oryza.)


111. A. tuberculata, Syn. Diagn. 10. no. 46. T. subtornatelliformis abbreviato-ovata ventricosiussula solidiuscula subopaca; spira latitudinem vix excedente, dimidio testae haud v. raro aequante; apert. obovata supra acuminata spiram excedente, lamina ventralis obsolete calloso-plicata et tuberculata, sc. extus superne longitudinaliter 1-plicifera v. subvaricoso-callosa, intus medio obscure 1—2-tuberculata; colum. obsolete truncata intus subdilatata nec prominula vix torta, in labrum simplex (nec arcuato-sinuatum nec inflexus) subattenuata.


Hab. in Portu S po.

Varr. vel subvarr. duae : α, fusco cornea v. castanea ; β, pallide ochraceo-lactea v. eburnea.

112. A. oryza, Syn. Diagn. 10. no. 45. T. submitriformis elliptico-fusoides subsolidiuscula subopaca; spira latitudinem paullo excedente, dimidio testae subequante, anfr. planatis; apert. obovata supra acuminata spiram paullo excedente, lamina ventralis plerumque simplici levi, intus aliquando medio obsolete subtuberculato, extus superne rarissime subvaricoso-callosa; colum. vix v. obsoletissime truncata in labrum simplex attenuata.

A. triticea, Reeve, Conch. Icon. Achat. t. 22. f. 116 (aucta)!
A. triticea b, Pf. ii. 278.
Helix C. triticea b. edentula, Prim. 61. t. 6. f. 26 (aucta).
Hab. in Portu S\textsuperscript{0} recens fossilisque.
Varr. v. subvarr. ut in A. tuberculata.

113. A. triticea (Helix C.), Prim. pp. 60, 61 (excl. var. b. f. 26).
T. mitriformis elliptico-fusoida graciliuscula solidiuscula sub-
opaca fulvo-cornea subfasciata, sutura albo-vittata marginata; spira subproducta latitudinemque dimidiumque testae distincte
excedente, anfr. planis; apert. obovata supra subacuminata
spira paullo breviore subbiplicata, plica superiore conspicua
transversa intrante ventrali medio, altera inferiori obscura ob-
ligua interna columnellari; colum. basi intus calloso-dilatata
obsolete v. obliquissime late truncata, truncatura medio emar-
ginata supra praesertim 1-plicata v. dentata, infra in labrum
simplex subbennata.

Longit. 5\frac{1}{2} — 6\frac{3}{4}, diam. 2\frac{1}{2} — 2\frac{3}{4} mill. Apert. 2\frac{3}{4} — 3\frac{1}{4}, spira 3—

3\frac{3}{4} longa. Anfr. 6 — 7.

Helix C. triticea, a. biplicata, Prim. l. c. p. 61. t. 6. f. 25 (aucta).
Ach. triticea a, Pf. ii. 278.
Hab. in Portu S\textsuperscript{0} recens fossilisque.
Obs. Animale nimis incaute et testa extracta, plica sup. magna ven-
tralis facillime diffracta deest. Talia exempla ab A. oryza caute
distinguenda.

§ 7. Pyrgella.

(Typ. A. Leacociana.)

T. turrita oblonga obtusa tenuis pellucida subarctispira, spira
producta, anfr. 5—6 convexiusculis, sutura subhorizontali di-

stincta vix marginata. Apert. obovata supra acuminata, spira
distincte brevier. Perist. simplex tenue acutum. Colum. ab-
breviata basi prominula torta truncata.
Obs. T. parvulae pellucido-tenues.

114. A. Leacociana, Syn. Diagn. 10. no. 43. T. minuta tenuis
pellucida splendide nitens turritoo-oblonga graciliuscula e basi
ad apicem subattenuata utrinque valde obtusa subarctispira;
anfr. 6 convexiusculis, sutura distincta subhorizontali; apert.
oblongo-obovata supra angustata acuminata spira distincte bre-
vior, labro leviter sursum arcuato-prominente; colum. abbre-
viiata basi abrupte prominula torta truncata.

Longit. 4—4\frac{1}{2}, diam. 1\frac{1}{4}—1\frac{1}{2} mill. Apert. 1\frac{3}{4} — 2 longa. Anfr.

5—6.
Hab. in Madera rariss. (T. S. Leacock).
Obs. T. facie Ach. maderensis lucida corneo-umbrina, animali fæta
nigricans.

(Typ. A. ovuliformis.)

T. abbreviata elliptico-oblonga purneiformis utrinque obtusa sub-
tenuisula panceispira; spira abbreviata obtusissima. Anfr. 4—5 convexusculi, sutura distincta. Apert. angustato-obovata supra acuminata plicis coarctata subringens spira subbrevior. Colum. basi prominula subdilatata torta distincte et abrupte truncata.

115. A. ovuliformis (Helix C.), Prim. 61. t. 6. f. 27 (anctæ); Pf. ii. 278. no. 98; Reeve, Conch. Icon. Achat. t. 22. f. 119 (anctæ)!

Hab. in Portu S.

116. A. cylichna, Syn. Diagn. 10. no. 44. T. cylindraceo-
oblonga anguste purneiformis (porcellano-cretacea nitens) utrin-
que obtusissima; spira exsertiuscida dimidio testae subaequante, anfr. 4 subplanatis, sutura distincta subimmarginata; apert. spiram subexcedente angustato-obovata sublineari-acuminata plicis coarctata ringente subquinqueplicata; plicis 2 ventralibus, inf. medio maximo, sup. tuberculiformi parvo obscuræ; 3 palatalibus, inf. maximo infra inf. ventrale, 2 sup. denticuliformibus minutis inter 2 ventrales conferruminantibus; col-
um. undique relevato-caloso, basi abruptissime arcuato valde prominente torta distinctissime truncata et emarginata.

Longit. 2|—2|, diam. 1—1| mill. Apert. 1|—1|, spira 1|—1| longa. Anfr. 4.

Hab. fossilis ad Canical Maderæ.

Genus 5. Pupa, Drap.

§ 1. Paludinella.

(Typ. P. edentula, Drap.)

T. cylindrico-ovata v. conico-ovata ventricosiuscula perf. v. umbil.

bulimiformis subpyramidato-ovata v. ovato-turrita subventricosa obtusa arcæ substriata tenuis fragils pellucida pallide corneo-
flavescens; anfr. 5 convexo-tumidulis, ult. ventricoso deorsum producto, sutura impressa; apert. oblique ovali longiore quam lata 2|—2| longitudinis equante omnino edentula; column. lamina in umbilicum expanso-refexa sinuata, medio convexiuscula; perist. angustissime expansiusculo subsimplici acuto, sursum subsinuato.

Longit. 2|—2|, diam. 1|—1| mill. Apert. 1|—1| longa. Anfr. 5.

Hab. inter muscos in truncis Laurorum Maderæ rariss.

118. P. microspora, Syn. Diagn. 11. no. 51. T. minuta distincte perf. conico-ovata subtrochiformis v. turbinata abbreviata curta obtusissima obsolete substriata fusco-cornea; anfr. 5 convexo-tumidulis, ult. obtuse angulato basi abrupte truncato v. subplanato, sutura impressa; apert. depressa transverse semiobovato latiore quam longa \( \frac{1}{3} \) longitudinalis æquante omnino edentula; column. lamina reflexa; perist. undique æqualiter arcuato-rotundato simplici acuto.

Longit. 1\( \frac{1}{2} \) — 1\( \frac{1}{4} \), diam. 1 — 1\( \frac{1}{4} \) mill. Apert. \( \frac{1}{3} \) — \( \frac{1}{2} \) longa. Anfr. 5.

Hab. in foliis culmisque paniculisque graminum, necnon in frondibus filicum, in excelsioribus herbidis v. graminosis Maderse rariss.

Obs. 1. Exempl. vix rite adulta; species vero cum nulla alia facile confundenda, forma P. edentulae, Drap., simillima, sed duplo minor.

Obs. 2. P. limnicana et microspora, Maderenses, P. dilucidae, Ziegler, et edentulae, Drap., Europeis, par consimile constant.

§ 2. Truncatellina.

(Typ. P. minutissimae, Hartm.)


119. P. linearis, Syn. Diagn. 11. no. 52. T. minuta distincte umbil. anguste elongato-cylindrica v. lineari-oblonga útrique obtusissima, apice quasi decollato-truncata, elegantar et concinne crebristiata; anfr. 6—7 convexo-tumidulis, 4—5 ult. æqualibus, sutura impressa; apert. latiusculum rotundato-ovali paullo longiore quam lata vix \( \frac{1}{3} \) longitudinalis æquante; perist. simplexiusculum angustissime reflexiusculum, labro leviter sursum subsinuato.

Longit. 1\( \frac{1}{3} \) — 2, diam. \( \frac{2}{3} \) — \( \frac{3}{4} \) mill. Apert. \( \frac{1}{3} \) — \( \frac{1}{2} \) mill. longa. Anfr. 6—7.

Hab. fossilis rarior ad Canical Maderae.

Obs. P. minutissimae, Hartm., proxima, nec forsan vere distincta.

§ 3. Gastrodon.

(Typ. P. umbilicata, Drap.)

120. P. fanalensis, Syn. Diagn. 11. no. 53. T. pupiformis
aperte umbil. tenus ovato-cylindrica abbreviata basi rotundata
splendide nitens laevis arcte et tenuiter substriata fusco-cornea
subfasciata, sæpe decorticata dealbata; anfr. 5—6 convexis
subtumidis, sutura impressa; apert. basi late rotundata exan-
gulata, carina umbilicali obsoleta; plica ventrali distincta,
columellari subnulla; labro marginato plano-reflexo, denticulo
superne cum sinu indentato obsoletissimo subnullo.
Hab. in truncis Laurorum Maderæ, rara.

121. P. anconostoma, α et β, Prim. 62. t. 6. f. 30 (quod formam male); Pf. ii. 314.
Hab. in Madera vulg.

§ 4. LEIOSTYLA.

(Typ. P. anglica, Fér.)

T. umbil. cylindrica v. ovato-cylindrica, nitens. Anfr. planati
laevigati obsolete substrati. Apert. multiplicosa fere ringens.
Plicae 2 ventrales: exterio (plica anguli, Pf.) maxima, cum
denticulo superne labri sinum pro orificio respirationis for-
mante: 1-2 columellares: 1–3 et ultra palatales intra labrum
subterne; denticulo marginali labri supra adjecto. Perist.
marginato-reflexum superne sinuatum.

122. P. cheilogona, Prim. 63. t. 6. f. 31; Pf. ii. 327, 328.
Hab. in frondibus flicum (Allantodice axillaris, R. Br., Pteri-
disque argutae, Vahl.) in adytis montium humidis obscuris umbrosis
Maderæ, rariss.

123. P. vincta, Syn. Diagn. 12. no. 54. T. oblongo-ovata sub-
abbreviata obesiueula apice obtusa splendide nitens laevis obso-
letissime substriata late colorato-fasciata; anfr. 6 subplanatis,
sutura subimpressa; apert. rotundato-ovali haud ringente qua-
driplicata, plica 5a rudimentali inconspicua punctiformi intus
ad basin aperturae adjecta; plicis 4 magnis, 2 ventralibus, 1
columellari, 1 palatali; ventrali interiore minore, plicae colu-
mellari unice aequali; labro reflexo subsinuato, intus in medio
uniplicato, denticulo superne obsolete, sinu respir. patulo effuso.
Long. 3—3½, diam. 2—2½ mill. Anfr. 6.
Hab. in rupibus irriguis inter Marchantiam polymorpham, L. et
gramina ad oram Septentrionalem Maderæ, rariss.

sub cylindrica apice obtusissima splendide nitens laevis obsolete
substriata fusca obscure fasciata, sæpe decorticata et tenuiter
lineata; anfr. 7 planatis transverse obsolete striatis, sutura
minus impressa; apert. subquadrangulari ringente sinuata quin-
queplicata, plicis alis duabus rudimentalibus in labro aliquando
adjectis; plicis 5 magnis, 2 ventralibus, 2 columellaribus, 1 pa-
latali; ventrali exterioi maxima extrorsum deflexa, interioi
minore columellari inferiori equali; columellari superiore minore
distincto; labro reflexo subsinuato intus in medio uniplicato,
plica sexta et septima rudimentali punctiformi supra et infra
aliquando adjecta; denticulo sinusque respir. completo distinctis.
Long. 4, diam. 2\frac{1}{2} mill. Anfr. 7.

**Hab.** in rupibus Convallium Maderæ irriguis inter gramina (*Des-
champsia argentea*, Lowe) muscosque, rariss.

125. *P. Laurinea*, Syn. Diagn. 12. no. 56. *T. umbilicata obeso-
cylindrica vel abbreviato-obesiuscula curta alceariformis, apice
abrupte contracta subacutiuscula, tota splendide nitens lavis
obsoletissime substratiata corneo-fulva subolivaceo-nigrescens spa-
diceo distincte bifasciata; anfr. 7 planatis, sutura distincta;
apert. subtrifoliato-auriformi, ad denticulum constrictiuscula,
aperte quinquiplicata, plicis subcoloratis remotiusculus separa-
tis, 4 majoribus, 1 tantum (ventrali ext.) prominentis; 2 ventra-
libus, 1 columellari, 2 palatalibus; duabus ventral. inæquali-
bus, exterioi maxima, interiore cum plica columellari minore
subincopnscencia immersa; labro intus biciplicato, plica sup. ma-
juscula, inf. minuta punctiformi ad imum aperturae immersa;
perist. marginato-reflexo incrassato carneo-v. fusco-purpureo ad
denticulum distincte indentato v. sinuato-contracto; sinus re-
spiratorio subincompleto deorsum subaperto, denticulo labri di-
stincto intus prominentes.

Magnit. fere *P. sphinctostomatis*.

**Var. α**; testa subobesiori intensius colorata, plica columellari ven-
tralique interiore subminoribus magis internis inconspicuis, cum peri-
stomate intensius coloratis.

**Hab.** in Convallae Boa Ventura ad truncos Laurorum.

**Var. β**; plica columellari ventralique interiore submajoribus magis
conspicuis.

**Hab.** in muscis ad truncos Laurorum (*L. canariensis*, L.) in Con-
valle Frigida (Rib. Frio) et ad S. Antonio da Serra.

**Obs.** Per *P. sphinctostoma* β, quacum in Rib. Frio commixta vivit,
in *P. sphinctostoma* α fere transit. Variat nempe plus minus cylin-
drica; semper vero pro longitudine latior quam *P. sphinctostoma*.

126. *P. sphinctostoma*, Prim. p. 63. no. 64; Pf. ii. 335. no. 86.

**Var. α, rupestris**; spira plerumque distinctius striata. Prim. l. c.
t. 6. f. 32.

**Hab.** sub foliis *Sempervivi tabulæformis*, Haw. in rupibus mari-
timis atque convallium Maderæ.

**Var. β, arborea**; testa leviore nitidior obsoletius striatula.

**Hab.** inter muscos in truncis Laurorum in convallibus Maderæ.

**Obs.** Species variabilis, plicis columellaribus 1–3, labri (palatalibus
1–3, denticulis 1–2) 2–5; sed testa cylindrica, apertura ringente
ovali, plicis 3 internis magnis inæqualibus, cum unica opposita inter-
media palatali magna labri internexantibus v. conferruminatis æqui-
prominentibus distinguenda.

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127. P. laevigata, Syn. Diagn. 12. no. 57. T. pyramidato-cylindrica sursum sensim subattenuata splendide nitens levis; spiras substriata; apert. subeffusa patula haud coarctato-pli-:
cata; plicis quatuor remotis, duarum ventralium exteriore 
magna prominente, interiore parva immersa inconspicua plicae 
unicae columnellari equali; labro intus uniplicato. 
Long. 3\(\frac{1}{2}\)—4\(\frac{1}{2}\), diam. 1\(\frac{1}{2}\)—2\(\frac{1}{3}\) mill. Anfr. 7—8. 
Hab. rariss. cum P. sphinctostomate a, cujus forsae modo var. 
vel status tantum degener, in rupibus Convallis S\textsuperscript{e} Luciae Maderae. 
Differt a P. sphinctostomate æque ac a P. laurinea, forma ab an-
fractu penultimo usque ad apicem sensim subattenuata.

truncata sericeo-nitens laevigata obsolete substriata cornea, fusco 
distincte fasciata; anfr. 8 planatis transverse obsolete striatis, 
5 ult. æqualibus, sutura subobsoleta; apert. subquadra-

129. P. macilenta, Syn. Diagn. 13. no. 59. T. cylindrica elon-
gata truncata sericeo-nitens distincte substriata pallida cornea, 
fusco distincte fasciata; anfr. 8 planatis transverse striatis, 
5 ult. æqualibus, sutura subobsoleta; apert. subquadra-

P. recta β, MSS. olim. 
Hab. in Ins. Des. Majore, Wollaston; etiam in Madera, Wollas-
tou et Leacock, rariss.
§ 5. **Craticula.**

Orcula, Held?

(Typ. *P. substriata*, Jeffr.)


130. *P. fusca*, Syn. Diagn. 13. no. 60. *T. cylindrica subelongata truncata striata fusca obscure fasciata*; anfr. 7½ convexis transverse crebristantibus, sutura impressa; apert. subrotundata sexplicata haud vincente, plicis confertis conferruminatis alternantibus subimmersis fuscis, 2 ventralibus, 2 columellaribus, 2 palatalibus; plica interiori ventrali, inferiore columnari, et superiore palatali subaequalibus; columellari superiore palatalique inferiore rudimentalibus, aliquando obsoletis; labro reflexo-marginato haud sinuato, denticulo superne distincto intus prominente, sinu respir. completo.

**Long.** 3—4, diam. 1½ mill. Anfr. 7—7½.

*Hab.* sub folia *Sempervici tabuliformis*, Haw., ad oram Septentrionale Maderæ.

131. *P. millegrana*, Syn. Diagn. 13. no. 61. *T. perpusilla cylindrica truncata striata fusca obscure fasciata*; anfr. 6 convexis, striis validiusculis equidistantibus substr minoribus subremotis, sutura impressa; apert. ovali septemplicata haud vincente, plicis tubercularibus confertis, palatalibus internis oppositis (nec conferruminatis) faucem fere claudentibus; 2 ventralibus magnis æqualibus, 2 columellaribus, superiore minore immersa inconspicua; 3 palatalibus, superiore parva distincta, intermedia crassa, inferiore parva immersa obscura; labro reflexo continuo, denticulo distincto.

**Long.** 2, diam. 1 mill. Anfr. 6.


132. *P. ferraria*, Syn. Diagn. 13. no. 62. *T. cylindrica subelongata truncata cerebriscula striata fusco-nigricans*, anfr. superne fascia distincta angusta pallida; anfr. 7 convexis, striis transversis rectiusculis capillaribus distinctis, sutura impressa; apert. ovali patula subeffusa 4-plicata; plicis lamellaribus inequalibus remotis inconspicuis, 2 ventralibus, 1 colummari, 1 palatali; columellari 2ᵃ superiore nulla v. omnino obsoleta, palatalibusque 2ᵃ superiore et 3ᵃ inferiore vel minitis rudimentalibus vel plurunque obsoletis nullis; ventrali interna parva immersa; columellari palatalique media æqualibus; labro subreflexo continuo vix sinuato, denticulo obsoleto, sinuque respir. effuso aperto indistincto.

**Long.** 3½—4, diam. 1½ mill. Anfr. 7.

*Hab.* in Portu S°, Wollaston.
133. P. monticola, Prim. 63. t. 6. f. 33; Pf. ii. 335. 
Hab. in Portu Sto.
Obs. Differt a P. ferraria testa minore abbreviata pallida fusco fasciata, anfr. 6 costulato-striatis s. striis validioribus remotioribus verticalibus flexuosis, plicisque aperturæ validioribus. P. monticola ad P. calathiscum ut P. ferraria ad P. fuscam vergit.

134. P. calathiscus, Prim. 64. t. 6. f. 33; Pf. ii. 344. no. 104. 
Hab. in Portu Sto.

(Typ. P. cassida, Lowe.)

135. P. cassida, Prim. 64. t. 6. f. 35 (male); Pf. ii. 344. no. 103. 
Hab. in Madera: recens rariss. nuperrime paullo abundantis a cl. Wollaston detecta. Fossilis sat frequens.
Obs. Species eximia notabilis, Scarabum vel Tomogerem referens. Testa recens pulcherrime brunneo-tessellato-marmorata, nitore porcellano-figulino.

§ 7. Alvearella.
(Typ. P. cassidula.)

Hab. in Madera rariss., Wollaston.

137. P. concinna, Syn. Diagn. 13. no. 64. T. subcylindrica curta subobesiuscula utrinque obtusa striata sericeo-subnitens spadiceo-fusca v. nigro-castanea fasciata, apice sæpe albo-de-
corticata; anfr. 7-8 planatis arcte striatis, striis capellaribus flexuosis conspicuis subvalidis, sutura distincta; apter. haud ringente quinqueplicata, plicis 3 validis prominentibus, 2 inconspicuis parvis; 2 ventralibus magnis extrorsum deflexis, exteriore denticulum labri fere attingente; 1 columellari, interiori ventrali subaequante; 2 palatalibus immersis, inferiore ad basin columellae punctiformi scepe obsoleta; labro reflexo, denticulo superne valde distincto intus prominente, alio supra ad angulum scepe adjecto, sinu respir. (ut in P. sphinctostomate) completo. Longit. 3—3½, diam. 1⅜—2 mill. Anfr. 7—8.

Hab. in Madera rariss. Primus inv. cl. Wollaston. P. laurinæ analoga, forsan affinis, simillima.


Hab. fossilis ad Canicàl Maderæ rariss. Primus inv. Wollaston.


Hab. in Madera; fossilis ad Canicàl rariss. Exempla recentia duo, alterutrum cum animali jam vivente, in Convalle St Luciae detexit oculatiss. Wollastonus.

§ 8. MASTULA.

(Typ. P. lamellosa.)

membranaceo-costati, costellis saepe spinelloso-productis. Apert. semi-ovalis subdepressa, plicis paucis distinctis.


(Typ. P. pygmaea, Drap.)


141. P. saxicola, Syn. Diagn. 14. no. 68. T. minuta rimato-umbil. subovideo-cylindracea v. subobesiusculo-oblonga utrinque subattenuata obtusa fulvo-fusca efasciata subopaca solidiuscula nitidula levigata sc. obsoletissime striolata; anfr. 5 convexis minutissime (sub lente) confertim oblique striolatis, ult. omnino simplice (nee "antice tumido-subcristato," Pf. v. pone labrum callo-pallido costato-subvaricoso), sutura distincta impressa; apert. æqualiter rotundato-ovali 5-dentata; dentibus 4 im-mersis cruciatis, 1 ventrali majore, 1 columnari, 2 palatalibus, 3 ½ tuberculiformi distincto extus superne ad angulum labri adjecto; perist. undique continuo æquali (nee sinuato) subincrassato expansiusculo intus ad ventrem calloso-relevato.

Longit. 1 ¼—1 ½ vix 2, diam. 3/8—7/8 vix 1 mill. Anfr. 4 ½—5 ½.

Hab. in Madera recens sub lapidibus; fossilis ad Canical rariss.

142. P. seminulum, Syn. Diagn. 14. no. 69. T. minutissima rimato-umbil. ovoideo-cylindracea v. obesiusculo-oblonga sub-ventricosiuscula utrinque subattenuata apice obtusissima fulvo-fusca efasciata subopaca solidiuscula nitidula levigata sc. obsoletissime striolata; anfr. 4 ½ tumidulo-convexis minutissime (sub lente) confertim oblique striolatis, ult. omnino simplice (nee antice varicoso), sutura profunda; apert. subquadriden-
tata; dentibus 3 immersis (4º palatali superiore minuto obsolete sepe defecte) in triangulum dispositis, 1 ventrali majore, 1 columellari, 1 palatali, 2 ult. subaequalibus; 4º tuberculiforme distincte extus superne ad angulum labri adjecto; perist. continuo subincrassato expansiisculo, intus ad ventrem callosorelevato, extus sc. labro subangulare strictissisco inflexo-sinuato, dentico superne intus distinctissisco.


Hab. recens in Madera rariss., T. S. Leacock.

Obs. Species subdubia, ulterior investiganda, quum exempla pauci, caque semel tantum, examinare contigit. Pupa saxicole forsant mera var. statusve pusillus.

Genus 6. Balea, PrIdx.


Hab. recens in Portu Sto rariss., Wollaston.


Genus 7. Clausilia, Drap.

144. C. crispa, Prim. 65. t. 6. f. 36 (aucta; e specim. manco decolorato nec rite adulto, perist. incompleto); Pf. ii. 484; Küst. M. et C. p. 118. no. 113. t. 13. f. 5–7 (opt.).

Hab. in trunciis Laurorum Maderae vulgar. necon fossilis ad Canical rara.

Obs. Sp. inter nobiliiores generis eximia pulcherrima, luteo picta s. albo (recens capta luteo) strigato-marmorata v. lentiginoso-maculata.

145. C. delcostoma, Prim. 65. no. 69.

Var. a. raricosta; T. solidiuscula ventricosiusculta testacea v. flavosubrufescens pallida; anfr. 10–11½ vix 12 convexiusculis clathrato-costellatis, costellis rariusculis subremotis distinctis, sutura distincta impressa.

Subv. 1. Porto-sanctana; eximie clathrata costellata, costellis sat remotis grossiusculis.

Cl. delcostoma a, Prim. 1. c. t. 6. f. 37 (aucta); Pf. ii. 410. Cl. Lowel, Alb. in litt. 1852; Küst. M. et C. t. 19. f. 23–26.

Hab. in Portu Sto recens vulg., foss. (Wollaston) rarior.

Subv. 2. maritima; subclathrato-costellata, costellis subapproximantibus tenuioribus.

Prim. 1. c. t. 6. f. 38 (aucta; errore pro var β. e specimine Cupi-calensi delineata!).
Hab. in Maderæ aridioribus maritimis, e. g. in Rancho prope Cam. de Lobos, ad Piedadem prope Canical, Paul do Mar, &c.

Obs. Var. a. Subv. 1 per Subv. 2 in β, Subv. 1 per formas intermedias innumeratas transit.

Var. β. crebristriata; T. tenuiuscula graciliuscula fusco-cornea intensius colorata subcinereo-sericina; anfr. 8–11 planatis crebristriatis, striis confertis approximatis tenuibus albidis, interstitiis colorato-fuscis, sutura subobsoleta minus impressa.

Cl. deltostoma β, Prim. l. c. (sed non f. 38, vide supra); Pf. l. c.
Subv. 1. normalis; gracilis subelongata.

Hab. in Madera Insulisque Desertis vulgatis. ubique: polymorpha. In submaritimis (e. g. in Rancho Insulisque Desertis) in α, subv. 2 transiens: in editorioribus aëre humidiore montanis tenuior fere minor, striis creberrimis tenuissimis.

Subv. 2. depauperata; subabbreviata pusilla, ad Cl. exiguum accedens.

Cl. deltostoma, Küst. M. et C. p. 92. no. 87. t. 10. f. 21–24?

Hab. in collibus apricis submaritimis, 1500 fere ped. altis, editorioribus montanis Maderæ.

Obs. Interstitia costellarum v. striarum longitudinalium æque et in α et β, plerumque striolis spiralibus confertis interruptis obsolete crenato-decussata. Striœ vero aliquando, præsertim in α 1, omnino evanescunt.

146. C. exigua, Prim. 66. no. 70. t. 6. f. 39 (aucta); Pf. ii. 485; Küst. M. et C. 91. no. 85. t. 10. f. 12–15.

Hab. in rupibus Maderæ.

Family IV. Cyclostomatidæ.

Genus Craspedopoma, Pf.

(Cyclostoma, § Hygrobium, Syn. Diagu.)

(Typ. C. lucidum.)


Obs. T. lævigata lucido-nitentes.


Hab. in umbrosis obscuris convallium irriguisque Maderæ ubique recens: etiam fossilis ad Canical: vulgatis. In Portu S° tantum fossilis rariss. In Desertis omnino deest,
148. C. Lyonnetianum (Cyclost.), Syn. Diagn. 15. no. 70; Pf. Mon. Pneum. p. 52. no. 89. T. trochoidea exilissime spiraliter striata; anfr. ult. angulato-curinato.
Diam. 3—3¹/₂, alt. 4—4¹/₂. Anfr. 5—5⁵/₈.
Hab. in convallibus Maderæ recens, fossilisique ad Caniçal rara, Wollaston.

Division B. Amphibia (Littorales).

Family V. Truncatellidæ.

(Operculatae. Tentacula 2, oculis ad basin externam. Pes simplex.)

Genus 1. TRUNCATELLA, Risso.

(Typ. T. truncatula, Drap.)

Hab. sub lapidibus magnis rotundatis, æstus maris quotidie submersis, siccisque deinque relictis, in littore septentrionali Promont. Su Laurentii Maderæ.


Family VI. Auriculidæ.

(Inoperculatae. Tentac. 2, oculis ad basin internam.)

Genus 1. AURICULA, Lam. (Pes simplex.)

(Typ. A. Miæ (Argenv.) Lam.)

§ 1. T. ovata v. oblonga, spira exserta.

Varr. a, castanea, obscure subfasciata; β, tota alba.
Hab. infra lapides littoris Septentr. Maderæ.

151. A. gracilis (Melampus), Zool. Journ. l. c. no. 2.
Hab. in fissuris rupium littoris Meridionalis Maderæ.

Obs. Prioris forsan mera var. v. status.
§ 2. T. conoidea, spira brevissima.

152. A. exigua (Melampus), Zool. Journ. i. c. 291. t. xiii. f. 6, 7.

Hab. infra lapides in littore Septentr. Maderæ.

Genus 2. Pedipes, Adans. (Pes duplex.)


Hab. vulg. sub lapidibus littoris Septentr. Promont. Sª Laurentii Maderæ, eun Truncatella truncatula β, Auriculisque æquali et exigua consociata.

Division C. Aquatice (aqua dulcis).

Family VII. Limneideæ.

(Inoperculæ. Tentac. 2, oculis ad basin internam.)

Genus 1. Limneus, Drap.

154. L. truncatulus (Buccinum), Müll.; parvulus v. pusillus fere minitus distincte perforatus ovato-conicus; anfr. tumidis, sutura profunda impressa; apert. spiram subseuante. Gray, Man. 240. t. 7. f. 108; Forbes and Haul. iv. 177. t. 124. f. 3. Limneus minutus, Drap. 53. t. 3. f. 5, 6. Lymnea minuta, Lam. vi. 2. p. 162. no. 12; Nilss. p. 72. Limneus minutus, Ross. i. 100. t. 2. f. 57.

Var. β. spira subbreviore aperturam vix æquante, perforatione subapatula; Phil. i. 147. t. 9. f. 2.

Hab. (β) in irriguis Maderæ infra 1500 ped. vulg.

Obs. T. Maderenses minutæ 3-4, raro 5-6 mill. longæ; anfr. ult. aliquando obsolete subcarinato. Exemplis Sicilianis a cl. Philippi descriptis omnino consimiles videutur.

Genus 2. Ancylus, Geoffr.

155. A. fluviatilis, Müll.; Drap. 48. t. 2. f. 23, 24; Nilss. p. 84; Gray, Man. 249. t. 10. f. 125; Phil. i. 120; Forbes and Haul. iv. 187. t. 122. f. 4.

Hab. in rivulis convallium Maderæ supra 1000 ped. ubique.

Obs. Exempla Maderensia majuscula, striolis longitudinalibus ple-rumque distinctiusenlis pectinato-radiata.
7. Descriptions of some species of Lepidopterous Insects belonging to the genus Oiketicus.

By J. O. Westwood, F.L.S.

(Annulosa, Pl. XXXIV.—XXXVII.)

It may probably be regarded as one of the settled axioms in natural history, that there is not a single character which has been employed to distinguish any group of considerable extent, which is not liable to be effaced or even contradicted by some one or more of the members thereof; thus, whilst we have quadrupeds without legs, and birds without wings, the great division of annulose animals characterized by the possession of articulated feet contains great numbers of species which are entirely destitute of those organs; and in like manner the secondary division of the Annulosa, distinguished by the possession of wings in the final state (or the Ptilota of Aristotle), exhibits to us many species which never gain instruments of flight. Instances, however, in which both these grand characteristics are absent, are of the greatest rarity. Of wingless Ptilota examples occur in most of the orders, as in the female glow-worm among the Coleoptera; the neater ant and female Mutilla among the Hymenoptera; many of the smaller grasshoppers and locusts among the Orthoptera; some of the Gerridae among the Hemiptera; the genera Boreus and Termes in the Neuroptera; the female Coccus among the Homoptera; the genera Chionea and Borborus among the Diptera; the Stylopidae, in the order Strepsiptera, and the females of various moths, as in the genera Orgyia and Cheimatobia, as well as in Oiketicus of L. Guilding. Amongst these exceptions it will be remarked that the majority are cases in which only the females are wingless, whilst all except Coccus, Stylops, and Oiketicus possess articulated feet in the wingless state. These three genera would therefore be regarded, if we considered only the adult state of the females, as the most degraded instances of apiropodous Ptilota. But such an opinion cannot be maintained, since the early states of these insects exhibit as high an amount of organization as those of any of the other insects in the orders to which they respectively belong, their peculiar characteristic being, that, whilst in the great mass of winged insects there is always a gradual evolution of structure, by which at length wings and legs are developed, these particular individuals, destined ultimately to appear in such a degraded condition, not only gradually lose their powers of evolution, but are subjected to a power of absorption by which the limbs which they at first possessed are gradually reduced in size and ultimately entirely lost, till the animal retains only the appearance of a short sluggish vermiciform animal, in which not only are the wings and legs but also the antennae and the organs of the mouth almost or entirely obliterated, and even the articulated condition of the body nearly lost.

Such is the apparently helpless condition of the females of a rather extensive group of moths, which have been long well known to German entomologists under the name of Sackträgers, of which the smaller species constitute the genus Psyche, whilst some of the larger were
formed by the late Rev. Lansdowne Guilding into the genus Oiketicus. The memoir on the two West Indian species observed by that author is contained in the volume of the Linnaean Transactions, and is one of the most valuable contributions to the science contained in the volumes published by that Society. Whilst the plates, however, which illustrate this memoir clearly prove the close affinity of the two insects, the males are very distinct in form from each other, and ought evidently to be regarded as types of separate subgenera. Of their intimate connexion with the smaller European species known under the generic name of Psyche (but which have lately been distributed by M. Bruand, in an excellent monograph on the group, into various subgenera), there can be no possible doubt; indeed the largest British species cannot be separated generically from Oiketicus.

OIKETICUS NIGRICANS. (Plate XXXIV. fig. 1 and details.)

Of this species males only were first captured in this country, which were illustrated by Mr. Curtis in his "British Entomology" under the name of Penthophera nigricans; its generical relation with Penthophera is, however, entirely unfounded, whilst even its family connexion therewith is at least questionable. By the kindness of F. Bond, Esq., I am enabled to exhibit at the present meeting of the Zoological Society living specimens of the females of this species, together with the male and the cases formed by the caterpillars, covered with small morsels of twigs and ling. From a comparison of the characters of this species as compared with the other British Psychides, I have considered the former as subgenerically different from them, and have applied to it the name of Pachythelia. The case of the larva affixed by its mouth to a twig of ling is represented in Plate XXXIV. fig. 1g. The caterpillar has habits similar to those of the larva of Mr. Guilding's Oiketicus, and like this has the head and thoracic segments of a pale buff colour dotted with black. Great numbers of the cases of this species were found in the New Forest by S. Stevens, Esq., F.L.S., &c., to whom I am indebted for the following note on the habits of the species:

"I found the cases of this insect both at Ringwood and Lyndhurst in the New Forest, attached to the points of the heath and gorse, in the third and last week in May, and the perfect insect appeared a few days after, the females more like a maggot than a complete insect, having neither wings nor legs, or at least only the rudiments of the latter; they occasionally come out of their cases, but generally lay their eggs first; two of the males which I reared had not been out of the chrysalis above ten minutes ere they paired with the females, but did not remain in connection above a quarter of an hour, nothing but their head and wings being observable at the time. Whilst at Lyndhurst, I kept the box I had the cases in out of doors, and one evening, it appears, the garden was quite alive with them, the males flying round the box and settling on the top, no doubt attracted by a female; their scent must be very strong, as the heath was more than half a mile off. I, unfortunately, was not at home at the time, but the woman at the cottage secured a specimen in a pill-box. I afterwards kept watch for them, but they did not appear another evening, al-
though there were several unimpregnated females in the box: how is this to be accounted for? The males invariably emerge from the chrysalis between 5 and 7 in the afternoon; but I have only, as yet, reared fourteen males and about two dozen females out of upwards of 100 cases; I begin to fear the remainder must be dead."

The accompanying figure of the female of the British species was made from the living insect, specimens having been sent me from Scotland by Mr. Weaver in the middle of the month of June. The body has all the soft appearance of that of the larva of a wasp or bee, and is of a pale dirty whitish colour, except the upper side of the head and thoracic segments, which are brown; the first, fourth, fifth, sixth, seventh, eighth, ninth, tenth and eleventh segments of the body are furnished at the sides with a pair of spiracles, from which the tracheæ may be seen to radiate through the thin skin of the body; on the underside of the body is a row of nine small brown spots in the middle of the segments, commencing on the segment next to the head, those on the thoracic segments being close together between the minute rudiments of legs. The head has three deep circular impressions in front, forming a triangle; the eyes appear to be merely irregular black spots, with the surface continuous and destitute of facets; the antennæ are rudimental, consisting of a minute exarticulated pair of appendages on the underside of the front of the head; between the rudimental antennæ there is a transverse impression in the place of the mouth which is alternately puffed out and withdrawn, but no opening is visible; the legs are minute tubercles; the body is terminated by a small fleshy lobe or appendage, beneath which is a fleshy pro-leg or wart. The insect has a very strong vermicular motion, contracting segment after segment, considerably resembling in this respect the incipient pupa of some Hymenoptera. It twists the extremity of its body about in various directions, especially upwards, with considerable energy.

The winged male has the antennæ bipectinated to the tips; the anterior legs are long and slender, the tibia being furnished with a long and slender spur arising from near the base, and the forewings are only furnished with eleven branches running to the margin of the wing. From a comparison of the figure of this wing with those of *O. Saundersii* (Pl. XXXV. fig. 2) and *O. Hübneri* (Pl. XXXVI. fig. 1b), it appears evident that the wanting branch is that analogous to the upper discoidal of Mr. Edward Doubleday.

The figures given by the Rev. L. Guilding of his two West Indian species of *Oiketicus* being deficient, from containing no representation of the veining of the wings, the structure of the legs, &c., I have endeavoured to supply these deficiencies by an examination of typical specimens, which are in fact requisite to enable us to establish satisfactory comparisons with the new species described in this paper.

**Oiketicus Kirbii.** (Plate XXXIV. fig. 2 and details.)

Of the male of *O. Kirbii*, L. G., there is a typical specimen in the Kirbian cabinet of the Entomological Society, which has afforded the
accompanying figures. The antennae consist of about forty joints, the third and eighteen or nineteen following bipectinated, the terminal pectinations being shorter on the underside, and the remaining joints simply serrated. The head has two minute slender rudimental exarticulate palpi, and the fore wings have the full complement of branches running to the margin of the wing, i.e. twelve; of these, however, that (y) which represents the lower discoidal of Mr. Edw. Doubleday is united into a fork with the third branch of the median vein as in O. Saundersii. The fore tibia has a long flattened appendage slightly notched at the base, arising near its base.

OIKETICUS MACLEAII. (Plate XXXIV. fig. 3.)

Of the male of O. MacLeaII, L. G., there is also a typical specimen in the cabinet of the British Museum.

In the fore wings of this species there are only ten terminal branches, the third branch of the subcostal and the upper discoidal being obsolete, and the lower discoidal (y) arises conjointly with the third branch of the median from the lower extremity of the discoidal cell. The fore legs are long and slender, with the fore tibiae simple.

By the kindness of W. W. Saunders, Esq., I am also enabled to exhibit, describe, and figure several new species of these insects recently brought from New South Wales by Mr. W. Stephenson.

The cases of several of the Australian species of these insects are figured by Mrs. Meredith in her 'Notes and Sketches of New South Wales,' and noticed in the following terms:—"Some of the insect architects here are most extraordinary creatures; but I grieve to say I know comparatively little about them, my chief acquaintance being with their deserted houses, of which I have several kinds; some of these are formed of straight twigs, the sixth or eighth part of an inch thick, and from two to four inches long, placed side by side in a circular form and very strongly webbed together within, so that it is impossible to tear them asunder without breaking the twigs, the ends of which usually project beyond the closed portion of the cell, which is suspended by a strong web woven over the spray of a tree or shrub, so as to let it swing with the wind. I have sometimes seen a large white caterpillar inside an unfinished cell, and on one or two occasions have observed a bush or tree so full of these pendent berths as to give them the appearance of a good crop of some fruit or seed. How such a creature could cut off and carry to their destined place, pieces of twig four or five times its own weight, I cannot imagine; that they were cut expressly for the purpose is evident, from the neat manner in which the ends are rounded off; they are left of uneven lengths and not webbed on the outside; which together with their being hung so as to wave with the leaves of the tree, seem all precautions against discovery. Some are formed in the same manner of much smaller twigs, others are pointed bags of strong web, with small bits of stick fastened at intervals on the outside, and some are
formed of a webbed bag to which quantities of small dead leaves are attached by one end only, so as to cover it entirely and flutter like a withered bunch of leaves; but all are hung upon trees as much resembling the nests in colour and aspect as possible. Those I have opened are lined within with the smoothest white silken web, the outer portion being brown or ash-coloured to correspond with the tint of the twigs or leaves."

Mrs. Meredith gives five figures of these cases, two being cylindrical, covered with thick bits of stick of various lengths, arranged close together longitudinally round the case; a third is a large elongate ovate bag with short bits of stick worked into it irregularly; a fourth is a cone of web covered with small dry leaves attached to it in great numbers by the base of the leaf; and the fifth is a cone of web with small twigs and grass straws attached to it and arranged longitudinally. The first and second of these figures seem to represent the cases of the same species, of which I do not know the perfect insects; the third is a small case of *Oik. Saundersii*; the fourth appears to be a small case of leaves similar to that figured in Plate XXXIV. fig. 5, of which I am not acquainted with the perfect insects; and the fifth may be a small case of *Oik. Hübneri*.

**Oiketicus Saundersii**, Westw.  (Plate XXXV.)

Mas. *Niger*, capite dimidio antico, thoracis, pedibus anticus, incisuris apiceque abdominis fulvis, antennis brevibus nigris dimitiato-bipectinatiis; alis fuliginosis, venis hyalinis, tarsis nigris.

Expans. alar. antic. unc. 2.

Fem. *Cylindrica*, luteo-albida vel faunicolor, capite segmentisque tribus anticus supra nudis, glabris, reliquis sericeis opacis, apicali tomento sericeo obscurius colorato omnino vestito; pedibus brevissimis, antennis obsoletis (oculo nudio haud detectis), oviductu elongato.

Long. corp. unc. 1 ½; latit. unc. ½.


Considering it advisable to maintain for these curious insects the system of specific names commenced by the Rev. L. Guilding, I have altered that proposed for the present species by its first describer, it being moreover inappropriate as applicable to other species agreeing with the present in structure. The antennæ of the males of this species consist of about forty joints, of which the first and second are thickened, the second very short, the nineteen following bipectinated, and the eighteen or nineteen terminal ones only serrated, but of these a few towards the base have the serratures furcate, indicating the bipectination of the preceding joints. The fore wings are elongated and offer several peculiarities in the arrangement of their veins. From the accompanying figure (Pl. XXXV. fig. 2) it will be seen that there are twelve branches running to the margins of the wing (which is the
typical number in butterflies*), and that of these, two \((2e\) and \(2d\) are united into a fork near the tip of the wing, the base of which fork extends backward to the upper exterior angle of the discoidal cell, from which also a simple vein \((2e)\) extends to below the extremity of the wing; below these is another simple branch \((x)\) emitted from the middle of the extremity of the discoidal cell, then two others \((y\) and \(3_{4,1}\) united into a fork with two simple branches beneath \((3_{2,2}\) and \(3_{1,1}\). These letters indicate the analogies which I consider these various branches to possess with those of the butterflies, and adopting the nomenclature of Mr. Edward Doubleday, the fork \((2e\) and \(2d\) must represent the third and fourth branches and \(2e\) the extremity of the subcostal vein, \(x\) the upper discoidal, \(y\) the lower discoidal, and \(3_{1}, 3_{2}, 3_{3}\), the three branches of the median vein. Here however, as in so many places elsewhere, we are met by the difficulty presented by the two discoidals; \(y\) in the species before us, forming unquestionably (so far as function is concerned) a portion of the system of the median vein. The more I investigate this subject, the less do I feel convinced of the propriety of regarding these two discoidals as having a distinct system of their own, feeling on the other hand that the upper discoidal, \(x\), belongs to that of the subcostal, and the lower discoidal, \(y\), as here, to that of the median vein. In this point of view, the figure which Zeller has just published of the veins of the wings of *Auxocrossa Hopfferi*, from Pará (Linn. Entomol. ix. tab. 3. fig. 25), is a perfect type of the system of the veins of the wings of Lepidopterous insects. Here are, as usual, twelve terminal branches, the costal and submedian simple, the postcostal with five simple branches and its own terminal portion, and the median with four simple branches, the two composite systems being quite separate from each other, there being no transverse veinlet to close the discoidal cell, which is consequently open as in many butterflies†; but in these latter we are met by the difficulty that the fourth or anterior branch of the median (or the lower discoidal of E. Doubleday, \(y\)) is pushed forward and becomes, together with the upper discoidal, \(x\), portion of the system of the subcostal vein. We may cut this knot either by supposing that these two contiguous branches belong to either one or other system (which accords with the views of Lefèvre), or by considering that sometimes one or other of these systems occasionally throws out another branch, the other system in such case being deficient in a branch, which is scarcely maintainable, seeing that out of the hundreds of Lepi-

* It is astonishing, with so many examples before him in which this typical number is reproduced, that M. Alex. Lefèvre, in his imaginary type of a Lepidopterous fore wing (Ann. Soc. Ent. Fr. x. pl. i.), should have given only eleven as the typical number.

† *Parasia Carlinella* (Stainton, Ins. Brit. Lep. pl. 4. fig. 6a) is another instance of the separation of the two systems of veins: the subcostal, consisting of five branches and a terminal portion; and the median of four branches, without any discoidal veinlet, but the cell is imperfectly closed. *Aschynia modestella* (ibid. pl. 8. fig. 1a) is another example of the separation of the two systems without any discoidal veinlet, but here the median has only two and the subcostal only four branches and a terminal portion.
doptera which I have examined, not one has possessed more than the ordinary twelve terminal branches.

The under wings are small and very acute at the outer angle, but have the anal portion considerably dilated into a rounded lobe. Here, as in the fore wings, the branch $y$, which is the lower discoidal (or rather the only discoidal of the hind wings) of E. Doubleday, is united with $3_{3}$ the third branch of the median vein, into a fork, thus transforming it into a portion of the median system.

The fore legs are rather long and slender, especially the tarsi; the large femur and tibia are very densely hairy, and the latter is short and furnished with a strong and long flat spine on its inside. The two hind legs are very short and thick, with the tarsal joints very short and the claws strong. This dissimilarity in the legs is a remarkable and unnoticed character.

The female is a thick short vermiform creature with short tufts of hair at the sides of the thoracic portion and terminal segments; the head is distinctly furnished with eyes, and on each side below the eyes with a very short and apparently exarticulated antenna; the six legs are present, but very short and thick, and terminated by a single-jointed short tarsus, with a pair of strong claws; it is this structure of the legs which at once distinguishes this unwieldy female imago from the larva; in this respect also the female differs from that of Oiketicus Kirbii, which has only the very slightest rudiments of antennae and unarticulated legs.

On the 30th August Mr. Stephenson first observed a yellowish-white substance protruding at the lower end of the largest cases, which upon close examination proved to be a portion of the females in the imago state, with one-third of their bodies exposed; about an hour afterwards, examining the cases again, he found the females had receded, and on opening a case, the female moth became evident within, and thus they emerge and recede as occasion may require. The female is a large aperous moth with very little of the ordinary appearance of an insect of the moth kind; its colour is yellowish-white, fawn or buff.

On the 5th September Mr. Stephenson examined some of the females, no males having yet appeared. Two or three were dead: one nearly so, having deposited a great number of ova within the pupa-cases, which were enveloped in a short silky material. When the female has deposited all her ova, she is literally nothing but thin skin, which soon desiccates, leaving room for the young larvae to pass. Mr. Stephenson states that on the 20th September a male imago appeared; it had been in active operation a good while, as evinced by its wings being much broken at the tips and otherwise much abraded. It has the extraordinary power of extending the abdomen to two inches in length, and of turning and twisting it in all directions. When in this state it has alternate rings of black and yellow, with a curious appendage at the extremity. The male appears very eager to accomplish the grand object of nature, namely the continuation of its species, as its existence appears to be of short duration. The large fat or rather distended females

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have not room to turn their bodies so as to present the generative organs conveniently to the male, consequently the immense development of the abdomen in the males is of the greatest importance; but it appears very extraordinary that the head of the female should be inverted, when it is known that she never emerges from the case, unless by accidentally falling therefrom, which position obliges the male, when in the act of coition, to stretch his abdomen all along the side of the female full 1¾ inch. This peculiarity appears to be the design of the All-wise Creator in order to afford a secure shelter for the defenceless larve, viz. the pupa-case of their parent, from which they emerge after the disappearance of their mother's body, and immediately form for themselves silken cases, covered with small pieces of anything they can procure, arranged in every respect as in the large ones.

The curious larva of this species with its case was first figured in a little miscellaneous work on natural history published at the close of the last century, entitled 'The Naturalist's Pocket Magazine,' vol. i. (1799) pl. 18, under the name of the Porcupine Caterpillar of New South Wales, without however its transformations having been observed. In the accompanying account of its habits, drawn up by an observer at Port Jackson, it is stated, that when any accident happens to its case, the Caterpillar repairs with incredible expedition whatever damage may have been received, so that in a very few hours it fills up a large hole with the same silky substance, and this with an exactness so perfect, that the nicest eye cannot discern what was the extent of the injury. The bottom of the case resembles the finest fleecy hosiery, and it is of a sort of grey, ash, or mouse colour, and has the silky softness of a mole's skin. The three segments following the head of the caterpillar are of a fine yellow colour, beautifully marked with black or dusky oblong spots: the eight following segments are of a dirtyish pale yellow colour, but the upper part of the terminal segment has the appearance of being covered with a large scale, though it is, in fact, only a substance of the same beautiful spotted yellow as the head and first three segments.

The full-grown larva of the female is represented in Plate XXXV. fig. 12. The head is comparatively small and nearly horizontal, the anterior margin of the head rounded, the clypeus forming a distinct but continuous piece, behind which is a small triangular portion bearing two minute tubercles near the middle of the face, the upper side of the head is uniform fulvous-buff coloured, the labrum is deflexed and deeply notched in the middle, the mandibles are strong and black; on either side of the head beneath is a black patch, at the anterior margin of which is placed the small group of ocelli on either side, and between them and the base of the mandibles are the antennæ, which in the dried specimens appear to consist of a very short annuliform basal joint, within the membranous apex of which are sunk the terminal joints, of which only the minute apex of the apical one is visible. The thoracic segments gradually increase in width and thickness, as do also the three pairs of thoracic legs, of which the coxae are soldered together and dilated into a broad horny
plate, giving great support to the articulated portion of the legs*. The thoracic segments are of a rich fulvous colour, each with four longitudinal black streaks, the two hinder ones, as well as the abdominal segments, also with small distinct raised lateral fulvous pieces upon the dark ground; the first, fourth, and seven following segments respectively bear a pair of spiracles†.

The larvae of the males are not so strongly characterized as those of the females, being nearly cylindrical, and the legs are less robust and raptorial, although the hind coxae are developed into a conical plate behind the hind pair of legs. The cases of the full-grown male larvae are not more than two-thirds of the length of those of the females. To one of the male cases I find the following note attached by Mr. Stephenson:—"Examined 12 June. White Caterpillar, head and first segment striped with brown. Head downwards, or the reverse way in which it feeds. Loose silk inside the case; ready to change. Examined June 27th, changed to pupa. October 1st, imago appeared."

This case, with the empty pupa skin, remaining, as is the usual custom with these insects, sticking out of the free extremity of the case, is represented in PI. XXXV. fig. 6. It will be observed below that Mr. Stephenson noticed that this species was occasionally infested with Ichneumonidous parasites, as was also the case with Mr. L. Guilding's West Indian species; but in a specimen of the case of this species brought home by Mr. Edwards, which I examined and sketched twenty-five years since, I found the body of the larva shrunken up within the case, in which were about thirty small, elongate, ovate, smooth, red-brown puparia of some parasitic species of Tachinidous Musceidæ, dispersed amongst the silken lining of the case, from all of which the flies had made their escape.

Like the pupe of the Hepialidae, the male pupe have the power of stretching out the abdominal segments to a considerable extent, in which position they remain after the imago has made its escape; they are endowed with this power to enable them to work their way out of the extremity of their cases, in doing which they are moreover assisted by the transverse series of minute hooks on the dorsal surface of the abdominal portion of the body. These hooklets are of two kinds, each of the 2nd, 3rd, 4th and 5th segments having a row of fine recurved hooks or strong curved short bristles across their hinder extremity, whilst the 4th, 5th, 6th, 7th and 8th have a row of stronger spines directed backwards across the base. The pupe are prevented from being forced entirely out of the cases by two strong hooks at the extremity of the body on the underside of the 8th segment, which appears to be composed of the rudiments of two

* This peculiar strength of the legs, with their gradual increase in size, is well represented in the Rev. L. Guilding's figure of the larva of Oiketius Kirbii (Linn. Trans. xv. tab. 7, fig. 7), but he has not noticed the remarkable construction of the coxae above described.
† I see nothing in this larva resembling the four spiracles represented by the Rev. L. Guilding, above the ventral pro-legs of the larva of O. Kirbii (tab. cit. fig. 7).
or three segments soldered together, having two pairs of small tubercles beneath, in addition to the two anal hooks; it is in this manner that the terminal abdominal segments of the larva become lost in the imago. The view of the anterior part of the body of the male pupa (fig. 8) well exhibits the broad cases of the antennae as well as those of the thighs, x, and tibia and tarsus, x, x, of the fore leg, and those of the 2nd leg, x, x, x, the short hind leg being concealed by the wing-cases.

The following particulars relative to the economy of this species are given from the notes of Mr. Stephenson by Mr. W. W. Saunders. "The larvæ are enclosed in a silken case, fortified on the outside with pieces of stick of various lengths, generally about half an inch long in the main part, but towards the lower end there are usually a few from one to three inches in length, in the centre of which the lower end of the silken case protrudes, free from the sticks, and which is very flexible. Through this aperture the larva discharges its excrement and exuviae. The upper or head extremity of the case is a beautiful tissue of soft silk, forming a tube half an inch in width, through which the larva emerges to feed and change its position. It frequently comes out half its length, but most commonly only protrudes its six true feet and the first four segments of the body. It generally takes the precaution to attach a portion of the side of the mouth of the tube to the branch upon which it is feeding, and when anything touches it unexpectedly, it immediately and with great celerity recedes into the case, drawing in the flexible part of the tube after it, and contracting the aperture so as to exclude all enemies. The larvæ of the largest cases are about three inches in length and half an inch in diameter. The abdominal and anal feet are mere circles of small points or hooks with which it moves in the case, taking hold of the beautiful silken lining, to which it can adhere with great pertinacity. The cases are found suspended on various shrubs, such as the different kinds of Leptospermum, Melaleuca, &c. at all seasons, and are very conspicuous. Previous to changing into the pupa state, the larva firmly fixes itself with silken fibres to some branch or paling, drawing together and permanently closing the head opening. It then reverses its position in the case, and envelopes itself in a beautiful soft silken cocoon of a yellowish-white colour. On opening a considerable number of cases I found the insect in various stages of growth in June. The pupa of the largest cases are about 2 inches in length and half an inch in diameter, and are of a dark chestnut colour; those of the smaller cases are darker, inclining to black, with the abdomen much attenuated, and about one inch and a half in length. The former are females, the latter males."

Notwithstanding the extraordinary care bestowed upon the larvæ to protect them from enemies, Mr. Stephenson observed many examples of the depredations of a parasite, and an Ichneumon had appeared in more than one instance.

Oiketicus Hubneri, Westw. (Pl. XXXVI. fig. 1 and details.)
Mas. Totus niger dense hirtus, antennis solis flavis, 48-articulatis,
ad apicem bipectinatis; alis subelongatis, hyalinis, venis luteis, nigro setosis, posticis subrotundatis, costa areaque nigro dense hirtis.

Expans, alar. unc. 1$\frac{3}{4}$.
Larva obscura, capite segmentisque tribus anticus albidis, nigro punctatissimis, carinis lateralis carnosis, propedibus dorsisque segmenti ultimi rufo-castaneis.

Habitaculum extus subcoriaceum, ramulis numerosissimis tenuibus obtusum, his basi tantum adfixis apicibus liberis.

Pupa maris elongata, nigra, nitida, segmentis abdominalibus 2, 3, et 4 ante apicem apiceque 5i serie transversali dorsali spinularum curvatarum, recurvarum instructis, 6to inermi, 7mo et 8vo ad basin serie transversa spinarum rigidarum postice directa instructis; tribus ultimis subcoaexitis, apicali hamulis duobus minulis, recurvis terminato.

Pupa feminae obesa, nigra, nitida, segmentis 4 anticus carinatis, capite parvo, utrique ceratotheca brevi instructo, podotheis minutis, segmentis abdominalibus inermibus, apicali hamulis duobus minoribus recurvis terminato.

Hab. in Nova Hollandia (D. Stephenson). In Mus. W. W. Saunders.

In addition to the materials received by Mr. Saunders, I am fortunately able to illustrate the history of this species by figures of the larva and its details, drawn by me twenty-six years since, and which have hitherto remained unpublished. In a case of this species, formerly in the collection of Mr. Edwards, I found a very well preserved larva which supplied these figures. The larva itself is represented in Pl. XXXVI, fig. 1o; it agrees in general form with that of O. Saundersii, but is at once distinguished by the great maculation of the head and thoracic segments, which, as well as the legs, are pale buff dotted with black; the longitudinal fleshy ridges at the sides of the body, the pro-legs, and the upper side of the terminal segment, red-brown; the remainder of the body in the specimen examined had changed to a blackish colour. Figure 1p represents the front view of the head, and fig. 1q the eyes and antenna of the left side, and the upper lip and mandibles in situ. The head of this larva was towards the slender free extremity of its case, showing that it had turned itself therein in order to prepare for assuming the pupal state, and consequently that it had arrived at its full size, and had then died. The case also agreed in size with those brought from Australia by Mr. Stephenson, from which the perfect insects had made their escape. There is scarcely any difference in size between the cases of the male and female larvae in this species. It will be observed that the case is covered with a vast number of very slender twigs, and these appear, from the different specimens brought home by Mr. Stephenson, to have been cut from different kinds of trees; hence it is evident that the species is not confined to a single tree; it will be moreover seen that these twigs are arranged somewhat systematically, the base of those nearest the narrow extremity lying beneath those nearer the wider aperture or mouth, which are thus perceived to have been added subsequently, proving, in fact, that the case is increased gra-
dually in size in the direction of its mouth, where the head of the larva emerges from the case; it is therefore easy enough for the caterpillar to extend its nest in this direction whilst remaining within it, just as a bricklayer builds the shaft of a manufactory chimney from within, but the caterpillar must protrude a considerable portion of its body in order to affix the twigs on the outside; and in this part of the business we also perceive an interesting piece of instinct, the loose points of the twigs being always directed backwards, so that in walking they oppose no resistance to the progress of the caterpillar, which they would do were they affixed either in the opposite direction or without any order.

The pupa of the male agrees for the most part with that of *Oike-ticus Saundersii*. The 2nd, 3rd, 4th and 5th segments are armed on the back, along the hinder margin, with a transverse series of fine recurved hooklets. The 6th segment is destitute of any hooks or hooklets, and each of the 7th and 8th segments has a row of stronger sharp teeth directed backwards at its base. The correspondence of the abdominal segments of the pupa with those of the larva, is proved by the appearance in the former of traces of the ventral prolegs of the latter.

The pupa of the female is very robust and, of course, destitute of wing-cases, but with slight traces of leg-cases, and also with two elongated cases extending from each side of the head, of which it is not easy to understand the object; the thoracic segments are rather strongly ridged, and the abdominal segments have lateral spiracles, and are also provided on the underside with four pairs of deep impressions, indicating the position of the ventral pro-legs of the larva (a peculiarity which I have not elsewhere noticed in Lepidopterous pupae); the body is terminated by two distinct hooks on the underside. In the opened case, represented in fig. 1 r, I found an empty female pupa-case with the head lying towards the narrow apical opening; near the anal extremity of its body the shell of the pupa-case had been burst through in several places, and behind it, lying among the soft woolly lining of the case, were four pupa-cases of a parasitic musceideous fly, of the subfamily Tachinidae, which were also empty, the flies having made their escape; behind these, towards the base of the case, lay the skin of the larva, shed on assuming the chrysalis state.

The perfect male insect differs from *O. Saundersii* in its antennæ, which are bipectionated to the tip; they consist of forty-eight joints, and the two thick basal ones as well as the terminal joint are simple. The fore legs are slender, the tibia being destitute of the elongated spur observed in *O. Saundersii*. The two hind legs are short and thick, with very short robust tarsal joints and strong but simple ungues. The fore wings of the male are much shorter than in *O. Saundersii*, and they are traversed to the margins by only eleven branches of the veins. From a careful comparison of this wing with that of *O. Saundersii* (Pl. XXXV. fig. 2), it will be evident that the wanting branch is the lower discoidal (y), or in other words, that the two branches, 3, and y, of the fork in the middle of the apical margin of the fore wings of *O. Saundersii* are coalesced into the 3rd
branch of the median, 3a, of O. Hübneri, which also tends still more fully to prove that the lower discoidal, theoretically speaking, forms part of the system of the median vein. The costal area is furnished near the base beneath with a strong hirsute lobe, through which the long bristle or bridle at the base of the costa of the hind wings passes. These latter wings agree with the fore ones in being destitute of the upper branch of the fork, formed by the 3rd branch of the median vein in O. Saundertii. In all the wings, moreover, the discoidal cell is only traversed by a simple longitudinal veinlet, whereas this is forked in the last-named species.

OIKETICUS LEWINII. (Pl. XXXVII. fig. 1 and details.)

Mas. Fuscus; capite antice, fasciis duabus longitudinalibus thoracis, squamuliforme ad basin alarum grisco-hirtis; alis fuliginosis, venis, presertim antecarum, fusco-hirtis, pene fulvo; antennis ad apicem bipectinatis.

Expans. alar. antic. unc. 1½.

Fœmina. Aptera, grossa, subalbida, obscursa, segmentis thoracis glabris, fulvis, carinatis, Imo subcucullato; antennis brevibus, exarticulatis, pedibus minusimis, tuberculiformibus, (parte postica corporis deteriora).

Habitaculum elongatum, subcylindricum, extus ramulis fere habitaculi longitudinalis, longitudinaliter omnino affixis, obtectum.

Hab. in Australia (D. Stephenson). In Mus. D. W. W. Saunders. The males of this species at once differ from those of the preceding by the dark smoky colour of the wings, and the still darker colour of their veins, as well as of the antennae, which are bipectinated to the tip; they consist of thirty-nine joints, of which the two thickened basal ones and the two at the apex are simple, the pectinations gradually shortening to the thirty-seventh joint. The veining of the wings nearly accords with that of O. Saundertii, although they are of a shorter form, and the hind ones are not lobed at the anal angle. The fore legs are long and slender, the tibiae furnished with an elongated spur at the base, and the hind legs are much shorter and thicker.

Figs. 1f & 1g represent the anterior portion of a specimen indicated as a "female which had deposited ova." The head is small, with two projections at the anterior angles, which do not appear to be either articulated at the base or along their length; on either side is a small dark spot representing the eyes; the thoracic segments are very glossy and produced into a sharp carina down the middle, the first segment behind the head being almost cucullated. The legs are very minute, rudimental, and apparently exarticulate.

The case is cylindric, with twigs of various sizes, but generally nearly as long as the case, fastened throughout their whole length on the outside; these are not arranged with so much regularity as in the cases of some of the other species, and occasionally one of the little twigs extends considerably beyond the extremity of the case, as in figure 1e.

The pupa of the male is nearly black and glossy, the incisious of the abdominal segments paler coloured; the head-case between the eyes
is produced into a conical point, and the second abdominal segment (which extends to the extremity of the wing-cases), as well as the third, fourth and fifth, are furnished on the back with a transverse series of recurved hooklets close to the hind margin. Those on the fourth segment are finer than those on the preceding; moreover the fourth, fifth, sixth, seventh and eighth segments are armed on the back with a series of spines at the base of each, directed backwards, those of the fourth segment being the most slender.

Oiketicus Boisduvali. (Pl. XXXVII. fig. 2 and details.)

Mas. Omnino fulvo-hirtus, pedum anteriorum basi antennisque fuscis, alis pallide luteo-fuscis, costa anticarum ad basin obscuriori.
Expans. alar. antic. unc. 1\textfrac{1}{10}.
Habitaculum elongatum, sensim attenuatum, extus ramulis brevissimis, numerosissimis, omnino affixis obtectum.

Hab. in Australia (D. Stephenson). In Mus. D. W. W. Saunders.
Exclusive of the peculiar colour of the males, this sex is remarkable for the shortness of the wings, which gives the insect somewhat the appearance of the lackey moth (Clisiocampa Neustria). The antennæ consist of about forty joints, and they are bipectinated to the tip. The veining of the wings agrees almost precisely with that of O. Saundersii. The fore legs have the tibiae furnished with the elongated spur at the base.

From a few fragments of the exuviae of the larva of the male in one of the cases, it is evident that the head and thoracic segments were maculated with yellow and black, but the pieces are so much injured that I cannot arrange them into segments.

The pupa of the male is of a light chestnut colour, with the wing-cases darker; the head-case is carinated above, and the dorsal portion of the abdominal segments is strongly striated or wrinkled transversely. The second and third segments are rugose at the base on the back, the fourth and four following are armed with a row of spines at the base, gradually becoming stronger on the hinder segments; the third, fourth and fifth have a transverse row of recurved hooklets on the hind part of the back of each. The fourth, fifth, and sixth beneath exhibit the appearance of a pair of pro-legs.

The female pupa is of a black colour, chestnut beneath and at the edges of the segments; it is elongate-ovate, the first segment behind the head slightly carinated; the abdominal segments are finely striated transversely, the base of each being rather rugose, and the extremity of the sixth and three following segments have a row of very fine recurved hooklets. The extremity of the body beneath is destitute of the two horny points observed in the pupa of the male.

Oiketicus Herrichii. (Pl. XXXVII. fig. 3 and details.)

Mas. Niger, dense hirtus, capite colloque griseo-albidis; antennis obscure fuscis, ad apicem bipectinatiis; alia hyalinis, venis pallide fusce-luteis, costa areaque anali omnium dense nigro-hirtis, pene aurantio.
Expans. alar. antic. unc. \textfrac{11}{15}.
Habitaculum ovale, coriaceum, extus ramulis nullis obtectum, carinis autem sex longitudinalibus elevatis; basi et apice tenuibus haud carinatis.

Hab. in Australia (D. Stephenson). In Mus. D. W. W. Saunders.

The male of this species agrees with that of O. Hübneri in the beautiful hyaline texture of the wings, almost destitute of scales or hairs (except along the costa and anal area, which are black), but the black antennæ, as well as the remarkable structure of the case of the larva, at once remove it from that species, with which it moreover almost precisely agrees in the veining of the wings, except along the costal portion of the hind ones, in which the veins are more irregular. The antennæ consist of about forty-two joints, which are bipecinated, except the two at the base and the apical one. The anterior tibiae are not furnished with the elongated spur at the base (a character which also occurs in O. Hübneri), the hind pair of legs are short and proportionately thicker than the fore ones.

The curious construction of the leather-like case, destitute of twigs or leaves on the outside, will not fail to attract notice: its formation must exhibit a curious modification of instinct.

The second and three following abdominal segments of the male pupa have the hinder margin furnished on the back with a row of fine short recurved bristles, and the sixth, seventh and eighth segments have a strong row of spines at the base of each, across the back; the third, fourth, fifth and sixth segments moreover have a pair of large oval impressions on each on the under side, representing the pro-legs.

In addition to the preceding Australian species of this curious group, I have figured the cases of three other species from New Holland, of which the perfect insects have not hitherto been observed. Two of these were brought home by Mr. Stephenson, and are in the collection of Mr. Saunders, whilst the third is in my own collection.

The first of these cases (Pl. XXXIV. fig. 5) is of considerable size and covered externally with large pieces of leaves cut somewhat irregularly, but mostly of an oblong form, attached by one end only, the remainder being free. Within this case I found some fragments of the cast skin of the larva, the head being strongly maculated with black spots more or less confluent; six of these are arranged in pairs upon the triangular space above the labrum. The thoracic segments were much less strongly spotted. The case also contained a female pupa of an elongate-ovate form, much larger than that of O. Hübneri, having the dorsal surface of the thoracic segments keeled, and that of the middle segments of the body but slightly wrinkled, and the hinder ones smooth. It is of a chestnut colour, the hind part of the abdominal segments with a ring of black. The third and three following segments of the abdomen with a row of very fine recurved hooklets at the extremity of the upper surface, the sixth and seventh rather rugose at the base, and the eighth with a row of small spines at the base.
Pl. XXXIV. fig. 6 represents another case, armed beneath with very short thin twigs stuck on transversely, above which are narrow pieces of flattened lanceolated leaves ribbed down the centre, varying considerably in length, mixed near the apical end with bits of stick. In the only specimen of this case brought home by Mr. Stephenson, I found only some very slight remains of the cast skin of the larva, whence I infer it was a male case, and that the insect having undergone its transformations, the empty shell of the pupa had been blown out of the extremity of the case before it was found.

Plate XXXIV. fig. 7 is a case in my own collection, coated with great numbers of short bits of thin twigs entirely fixed in a transverse position, thus differing from all the other species described in this paper. It had been inhabited by a female larva which had commenced its transformation to the pupa state, the skin of the larva being slit and partially cast off, the upper bind part of the body of the female pupa being quite disengaged, but it had not power sufficient to throw off the head-case of the larva, which still remained entire, covering the head of the pupa. The head and thoracic segments of the larva were luteous, very much spotted with black.

The four following species are natives of Ceylon, and have been communicated to me by R. Templeton, Esq., by whom two of them were described and figured in the Transactions of the Entomological Society, vol. v. pl. 5.

Oiketicus Templetonii, Westw. (Plate XXXVI. fig. 2 and details.) (O. tertius, Templeton, Trans. Ent. Soc. v. pl. 5, fig. 1-4.)

The name proposed for this species by Mr. Templeton being incorrect as well as inappropriate, I propose to apply to the present species a name more in harmony with those of the remainder of the genus. The species is well distinguished by its long body and narrow pointed fore wings, which have a large patch at the extremity of the discoidal cell, and a cloud between its extremity and the apex of the wing, of black, and the antennae are only semipectinated, thus resembling O. Kirbi and Saundersii. The male has the normal number of marginal branches (12), but the lower division (2e [5]) of the subcostal vein branches off at some distance from the extremity of the cell; and the lower discoidal (y) forms the upper part of a fork with the third branch (3,3) of the median vein. The discoidal cell, in all the wings, is traversed by a fuscated veinlet. The antennae consist of forty joints, of which the third to the twenty-fourth are bipectinated, twenty-fifth to twenty-seventh biserrated, and the remainder strongly uniserrated. The fore legs are long, with a strong sharp spur arising from the base of the tibia.

The male pupa is dark chestnut-coloured, with the abdominal segments strongly wrinkled transversely; the extremity of the body, in addition to the two terminal hooks, is furnished beneath with two prominent obtuse tubercles; the only row of recurved hooklets which it possesses is situated across the extremity of the third abdominal
segment, the fourth to the eighth segments having a row of spines at the base of each.

The Entomological Society of London have received specimens of this species with the larva-case, from Hong Kong, presented by J. C. Bowring, Esq. A careful comparison of the Chinese individuals with Mr. Templeton's typical specimen, leaves no doubt as to this remarkable geographical range of a species of this group.

Oiketicus consortus, Templeton. (Pl. XXXVI. fig. 3,1-4, details.)

This species was also described by Mr. Templeton in the 'Transactions of the Entomological Society,' vol. v. pl. 5. fig. 5-7, without any details being given. The species is at once distinguished from O. Templetoni by its broader and more obtuse wings, its antennae bipectinated to the tip, thus more nearly resembling O. MacLeaii. The antennae are thirty-seven-jointed, the third to the thirty-sixth joints bipectinated, the pectinations being longer and more slender than usual. The fore-legs are slender, the tibia with the long spur (finely setose on the outer edge) arising from its base. The hind femur is rather thicker and slightly shorter than the fore one; the hind tibia is about as thick as, but shorter than, the fore one, and the hind tarsus is as long as the three terminal joints of the fore tarsus. The veins of the fore-wings are arranged nearly as in O. Templetoni, except that the terminal branch of the subcostal vein (2 e) arises close beyond the discoidal cell. In the hind wings the third branch of the median vein is furcate.

In the larva-cases figured by Mr. Templeton the outer surface is naked, but in another case received from him, a few particles of twigs and bits of leaves were fastened on the outside, as represented in fig. 3,4. In this case I found the cast skin of the larva, showing the head and thoracic segments to have been of a pale yellow colour very much dotted with black, there being a transverse row of black spots in front of the prothoracic segment. The pupa of the male has the second and third segments unfurnished with hooklets, the fourth with a row of very fine recurved setae across the posterior margin, and the fifth with a row of recurved hooklets. The sixth segment is unarmed, and the seventh and eighth have a strong row of spines at the base; the abdominal segments being strongly wrinkled transversely, and the anal segment much incurved, with two strong hooks.

Oiketicus Doubledaii, Westv. (Pl. XXXIV. fig. 4 and details.)

Mas. Piceus, griseo-hirtus, antennis fuscis, pedibus obscure luteis, atis hyalinis, latis, abdomine brevi, gracili, dense hirsuto. Expans. alar. antic. unc. 3/.

Habitaculum larve cylindricum, ramulis longitudine variis, parallelis, affinis. Pupa maris gracilis, castanea, segmentis abdominatis 4-8 ad basin serie spinarum instructis. Hab. in Ceylon (D. Templeton).

This very distinct species may at once be known by the large
hyaline colourless wings of the males (with which sex alone I am acquainted); the body is pitchy, densely clothed with dark grey hairs; the antennae are brown and only twenty-five-jointed, strongly bipectinated, the pectinations long and slender, extending to about the eighteenth joint, the two or three following joints slightly bipectinated, and the remainder biserrated, but gradually becoming almost simple. The lower part of the face is furnished with a transverse raised ridge, beneath which are two black impressed dots apparently indicating the position of the palpi. The legs are slender, the tibiae and tarsi dirty luteous, the fore tibiae are furnished with a long spur arising from the base. The hind pair of legs are shorter and thicker than the fore ones. The wings are large, the hind ones extending nearly to the extremity of the abdomen; the anterior have the normal number of branches running to the margin of the wings, but the discoidal cell is extended so far beyond the middle of the wing, that the branches are necessarily much shortened. The discoidal cell is traversed by one well-marked and one incomplete vein. In the hind wings the third branch of the median vein is simple.

The male pupa is slender and light chestnut-coloured; the antennae-cases extend as far as the extremity of the cases of the second pair of legs; the third, fourth and fifth segments of the abdomen have a row of fine recurved setæ across the hind margin of the dorsal portion of each, and the fourth to the eighth segments have a row of spines across the base of each, those on the fourth segment being the smallest, and those on the eighth the largest, this last having only a semicoronet of about seven or eight spines; the base of the segments is rugose, but scarcely transversely wrinkled, and the two hooks at the extremity of the body are large.

**OIKETICUS CRAMERII, Westw.** (Plate XXXVII. fig. 4 and details.)

*Mas. Fuscus; alis bruno-fuscis, posticis obscurioribus, disco antecarum brunneo, venis nigro-hirtis, striola subapicale, maculis duabus marginalibus nubilaque pone medium alarum griseolibus; antennis usque ad apicem bipectinatis.*

Expans. alar. antic. unc. l.

*Habitaculum larvae cylindricum, extus ramulis longitudine aquilibus et parallelis arcte applicatis, obtectum.*

*Pupa maris obscure castanea, segmentis abdominalibus opacis, valde transverso-sulcatis.*

*Hab. in Ceylon (D. Templeton).*

This species differs from all the preceding in the more varied markings of the fore wings, which are moderately elongated and have the normal number of branches extending to the margin, the lower discoidal (y) forming the upper division of a fork with the third branch of the median. In the hind wings the third branch of the median is accompanied by a distinct discoidal vein arising separately from the extremity of the discoidal cell. The antennae are moderately bipectinated and thirty-eight-jointed, the pectinations extending to the extremity, the terminal joint alone being simple. The fore legs are slender and
considerably longer than the hind ones, with a long spur arising near the base of the tibia.

From specimens contained in the Cabinet of the British Museum, I infer that this is the species of which Mr. Templeton figured the case in the 'Transactions of the Entomological Society,' copied in Pl. XXXVII. fig. 4d.

The male pupa is dark chestnut-coloured, with the abdominal segments not at all glossy like the fore part of the body, but very strongly sulcated transversely, except about one-third of the posterior part of each, which is smooth and paler coloured. The 2nd to the 5th segments have a row of recurved setæ across the hind margin of each, scarcely visible in the second and third segments, and the fifth to the eighth segments have a row of strong spines. The two anal hooks are strong.

The female of this species has not hitherto been observed.

In addition to the preceding species from Australia, Ceylon, and the West Indies, I am able to indicate the existence of the genus in the East Indies, although not in so precise a manner as I could have desired.

In Forbes's 'Memoirs on the East Indies,' pl. 22, there is the representation of the larva of one of these insects, described as the "Faggot Caterpillar, with its nest on the variegated Acacia or Bam-bal tree in Guzerat." The case is cylindrical, with a number of twigs about the length of the case placed close together side by side, nearly as in Pl. XXXVII. fig. 4d; the caterpillar is also represented partly protruded out of the mouth of the case, with the head and thoracic segments pale coloured with dark brown spots. The perfect insect does not appear to have been observed; but in a collection of drawings of Indian insects, made by Lady Gilbert, and placed in my hands by her ladyship, I find two distinct species of these insects; one of these has a case as large as, but shorter than, that of O. Saundersii, externally covered with long pieces of twigs laid closely together, which was found on the 10th of August on a branch of the Asseen tree. Round the entrance or upper part was an elastic web which the enclosed caterpillar had the power of contracting or lengthening; the former it always did when alarmed. It would then fix the extremity of the web to the twig and hang from it, as if nothing possessing life was within the case; when in search of food it only puts forth the head and fore feet, notwithstanding which it moved very nimbly, house and all, along the branches. After spinning itself up to undergo its transformations, it was accidentally destroyed.

The other species observed by Lady Gilbert was also found on the 10th of August. The cases are similar to that last above described, but much smaller, about 1¼ inch in length, the twigs rather converging at the free extremity of the case. They were found on the palm tree, and fixed their cases to the frame in which they were enclosed, at the beginning of October, to undergo their transformations, appearing in the perfect state at the end of the following April, the male being small, with dark brown wings and antennæ bipectinated to the tips.
A number of specimens, apparently of this species, were lately sold by auction by Mr. Stevens in London, and I regret that I was not able to obtain a specimen for description. Major-General Hearsey also collected some of the cases of this species in Central India, without, however, obtaining the perfect insect; from these I find that the attenuated extremity of the cases arises from the fact of the larva employing the strong spines of the tree upon which it feeds for the defence of its case, the points being always directed backwards.

The minute analysis made in the foregoing pages, and the accompanying plates of twelve species of these case-bearing Moths, enables us to form an opinion as to the composition and affinities of the group in question, respecting which much diversity of opinion has prevailed. With the exception of the characters derived from the case-bearing habits of the larvæ, the wingless and unwieldy state of the female, and the more or less strongly pectinated antennæ of the males, we find no homogeneity in the perfect state of the insects; indeed we could scarcely select three moths more unlike each other than *O. Saundersii*, *Boisduvalii*, and *Doubledaii*, and almost every modern lepidopterist would at once pronounce such variations of form to belong to as many different genera. The general shape of the body has been seen to vary from a greatly elongated to a short, robust, as well as to a short and slender form. The wings in like manner vary from the long pointed form to the very short broad proportions of *O. Boisduvalii*. They vary also in being either densely squamose or completely hyaline. Their veins also offer considerable variation both in situation and in the number of their branches, although we may affirm that the narrowness of the base of the discoidal cell, and its completely closed state by a vein which is always angulated in the middle, the apex of the angle being towards the base of the wing, and the cell itself traversed by one or two slender veinlets, often united together into a fork, appear constant characters of the group. The antennæ also vary in being only semipectinated, like those of the Zeuzerae, whilst in others they are completely bipectinated to the tip; the number of joints also varies from twenty-five to upwards of forty; and lastly, the slenderness of the fore legs and the short robust form of the hind ones appear to be a good character of the group; but this portion of the body offers a striking variation, in consequence of the fore tibiae being furnished with a long spine arising from its base, of which some of the species are destitute. The nature of the larva-case even offers striking variations, since in *O. Templetonii* and *Herrichii* it is destitute of any extraneous matters fixed on its outside. The females also, in the few species in which they have been observed, are found to vary in the amount of development of their antennæ and legs, these organs being almost obsolete in *O. Kirbii*, whilst in *O. Saundersii* the legs are well articulated.

If, with the view of establishing sectional groups, we take the semipectinated character of the antennæ as a primary distinction, we find, that although the males of *O. Kirbii* and *O. Saundersii* agree well enough together, in general form, length and narrowness of the
wings, antennæ, and spurred fore tibiae, the females differ in the amount of development of their legs; whilst the species with entirely pectinatated antennæ offer still more numerous variations. If, again, we select the want of the spine of the fore tibiae as a primary distinction, we find *O. Herrichii*, *Hübneri*, and *MacLeaii*, varying greatly in the form of the males, in the larva-cases, and the veining of the wings, although the latter have always a deficiency in the number of the branches of the veins of the fore-wings.

Bearing the foregoing observations in mind, the following distribution of the twelve species before us must be considered as an artificial or technical one:—

A. Antennæ of the males semipectinated, body and wings greatly elongated.
   a. Cases of the larva with twigs on the outside.
      ** Females with exarticulated tubercles in the place of the legs.  Sp. 2. *O. Kirbii*.
   aa. Case of the larva naked.  Sp. 3. *O. Templetonii*.

B. Antennæ of the males bipectinated to the tip, body and wings short or of moderate length.
   a. Fore tibiae of the males without an elongated spur.
      * Wings short, rounded, fore wings with only ten branches extending to the margins.  Sp. 4. *O. MacLeaii*.
      ** Fore wings elongate, triangular, with 11 branches extending to the margins.
         † Case of larva densely covered with thin twigs.  Sp. 5. *O. Hübneri*.
   aa. Fore tibiae of the males with a long spur.
      * Fore wings with twelve branches extending to the margins.
         † Third branch of the median vein of the hind wings accompanied by an extra branch.
         †† Third branch of the median vein of the hind wings unaccompanied by an extra branch.  Sp. 11. *O. Doubledaaii*.
      ** Fore wings with only eleven branches, extending to the margins of the wing, the third branch of the median vein not united with the preceding branch into a fork.  Sp. 12. *O. nigricans*.

The relationship of these insects with the families of Lepidoptera*, involving their natural situation in the order, is one which would

* The idea that *Psyche* is Trichopterous, and not Lepidopterous, does not merit refutation.
require a much more extended investigation than can be devoted to it on the present occasion. Their intimate allies are of course the *Sackträgers* of German entomologists, or the genus *Psyche*, some species of which cannot be generically separated from *O. nigricans*. The opinions of recent lepidopterists, as to the family to which they belong, have oscillated between the Bombycidae and Tineidae. The latter relationship is maintained by M. Bruand, in his elaborate monograph *‘Sur la Tribu des Psychides,’* published in the *‘Comptes rendus de la Société libre d’Emulation du Doubs.’* But nothing can be more inconclusive than the arguments by which this opinion is supported; since, because M. Bruand adds to his “tribu” other insects which are “tellement voisines des Tineites que l’on ne peut les éloigner de ce dernier genre,” and insists at the same time that “tous les Psychides doivent ne former qu’un seul groupe,” he at once (without attempting any philosophical analysis either of the minute characters of his Psychides, or of those of the great families Bombycidae and Tineidae) arrives at the conclusion that “on ne doit plus hésiter à les placer dans les Tineïdes.”

Now the elaborate details given by Mr. Curtis in his *‘British Entomology,’* and especially by Mr. Stainton in his volume of the *‘Insecta Britannica,’* enable us to institute something like an effectual comparison between the relative characters of these two families, and to contrast them with those of the *Oiketicici* illustrated in the present paper.

The size and general appearance of these *Oiketicici* at once bring them into comparison with certain Bombycidae (*sensus latiori*). The rudimental mouth is another character in common with the latter, whereas in the Tineidae the palpi and spiral tongue are generally well developed. In the antennae they also agree with the Bombycidae, in which deep bipectation is the general character, whereas it is an exceptional character amongst the Tineidae. In the Bombycidae, the fore legs are often the longest and the hind ones the shortest, whereas it is generally contrary with the Tineidae, in which the hind tibiae are also strongly armed with two pairs of spurs. The long spine of the fore tibia appears also to be much more common among the Bombyces than in the Tineae, whilst we also find the veins of the wings of *Oiketicicus* arranged on a different plan from those of the Tineidae; in these latter, the discoidal cell when closed is either rounded or truncate (obliquely or transversely) at its extremity, whereas in the Oiketicici we have seen its termination angulated, the apex of the angle pointing towards the base of the wings. In the Tineidae we also find it almost a constant character, that where one of the branches of the subcostal vein is forked, it is the fourth and fifth branches which form the fork, whereas in the Oiketicici it is always the third and fourth, *Nemophora* (Staint. pl. 2. fig. 5) being the only exception throughout the whole of the Tineideous genera, and in this genus, as in a great many of the others, the discoidal cell of the fore wings is furnished with a cell at its anterior extremity, formed by the base of the sixth longitudinal branch, which runs to the margin of the wing (*i.e.* the fifth branch of the subcostal vein), extended backwards, and joining the subcostal vein between its first and
second branches. *Lampronia* and *Incurvaria* (Staint. pl. 2. figs. 1 & 3) are excellent examples of this arrangement. This character does not occur in the Oiketici, the veins of which, on the other hand, are more analogous to some of the Bombycidae, such as *Limacodes*.

These considerations are, I think, sufficient to disprove the relation of *Oiketicus* and *Psyche* with the Tineae, and to establish their position among the Bombyces.

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**DESCRIPTION OF THE PLATES.**

**PLATE XXXIV.**

*Oiketicus nigricans.* (Great Britain.)

Fig. 1. Female magnified, seen sideways, drawn from living specimen.

Fig. 1a. Head and anterior segments of the body, seen from beneath, showing the rudimental eyes, antennae, and legs.

Fig. 1b. The same, seen sideways.

Fig. 1c. The lower part of the face, showing the transverse membrane capable of alternate dilatation, and the small exarticulate antenna.

Fig. 1d. The terminal segment of the body, showing the produced bilobed appendage and the central terminal elongated joint.

Fig. 1e. The same seen from beneath, the bilobed appendage seen almost vertically.

Fig. 1f. The same, seen sideways.

Fig. 1g. The case formed by the female larva.

Fig. 1h. The pupa case of the female; slit behind the head for the exit of the insect.

Fig. 1i. Fore wing of the male:—1, costal vein; 2a, 2b, 2c, 2d, 2e, branches of the subcostal; (s, upper discoidal, wanting) y, lower discoidal; 31, 32, 33, the branches of the median vein; 4, submedian vein. The same lettering is used throughout the wings represented in this and the three following plates (except that the branches of the subcostal have occasionally been numbered 21, 22, 23, 24, 25), occasionally one of them is wanting, or the lower discoidal is wanting, instead of the upper; in these cases the place of the wanting branch is indicated by a < and the indicatorial letter in the place which it ought normally to occupy.

*Details of Oiketicus Kirbii.* L. Guild. (West Indies.)

Fig. 2a. Antenna of the male.

Fig. 2b. Fore leg of the male.

Fig. 2c. Fore wing of the male, with the normal number (12) of marginal branches.

Fig. 2d. Head of the male, seen in front.

*Detail of Oiketicus MacLeaii.* L. Guild. (West Indies.)

Fig. 3. Fore wing of the male, with only ten terminal branches.

*Oiketicus Doubledaii,* Westw. (Ceylon.)

Fig. 4. The male magnified.

Fig. 4a. Head of the male, seen from below, showing the transverse ridge and two spots indicating the palpi.

Fig. 4b. Fore wing of the male, with the normal number of marginal branches.

Fig. 4c. Hind wing of the male.

Fig. 4d. Fore leg, with spurred tibia, of the male.

Fig. 4e. Hind leg of the male.

Fig. 4f. Case of the male, with the empty puparium sticking out of its apical extremity.

*Oiketicus*, ——, ——, and ——. (Australia.)

Figs. 5, 6, & 7. Cases of three Australian species in the Collections of Mr. Saunders and myself, of which the transformations have not yet been observed.

**NO. CCLXXV.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.**
PLATE XXXV.


Fig. 1. The male, of the natural size.
Fig. 2. Fore wing of the male, with the normal number of marginal branches.
Fig. 3. Hind wing of the male.
Fig. 4. Fore leg of the male, showing the tibial spur.
Fig. 5. Hind leg of the male.
Fig. 6. Case formed by the male larva, with the cast skin of the pupa sticking out of its terminal extremity.
Fig. 7. The pupa of the male, seen sideways.
Fig. 8. Anterior part of the body of the pupa of the male, seen beneath, showing the short broad antenna-cases (*Ceratotheca*), the two anterior pairs of legs, *, anterior femur; **, anterior tibia; ***, the intermediate tibia and the cases of the fore wings (*Pterotheca*).
Fig. 9. Female of the natural size, seen sideways.
Fig. 10. Anterior part of the body of the female, seen from beneath, showing the very minute exarticulate antennae and the three pairs of very short articulated legs.
Fig. 11. One of the legs of the female, showing the short exarticulate but bi-un-guiculated tarsus.
Fig. 12. The case formed by the female larva, which is represented crawling, of the natural size in the upper part of the plate.
Fig. 13. Hind pair of feet of the female larva, with greatly enlarged united coxae.

PLATE XXXVI.

*Oiketicus Hubnerii*, Westw. (*Australia*).

Fig. 1. The male, slightly magnified.
Fig. 1a. Antenna of the male.
Fig. 1b. Fore wing of the male, with only eleven marginal branches (the lower discoidal, y, being obsolete).
Fig. 1c. Hind wing of the male.
Fig. 1d. Fore leg of the male.
Fig. 1e. Hind tarsus of the male.
Fig. 1f. Hind leg of the male.
Fig. 1g. Case formed by the male larva, with the puparium sticking partly out of the apical extremity.
Fig. 1h. The male pupa, of the natural size.
Fig. 1i. Hind part of the male pupa, greatly magnified, showing part of the case of the fore wings, the hind wing case attached to the short metathoracic segment, the two short basal segments of the abdomen partly covered by the wing cases, the four central segments of the abdomen, with indications of the prolegs of the larva, the seventh segment of the full size, and the terminal segments coalesced together.
Fig. 1k. Portion of the row of shorter recurved hooklets at the hind margin of the basal segments of the abdomen of the male pupa.
Fig. 1l. Portion of the rows of longer ditto.
Fig. 1m. Portion of the rows of spines at the base of the terminal segments of the abdomen.
Fig. 1n. Line indicating the natural expanse of the wings of the male.
Fig. 1o. Larva full-grown but dried up, and consequently somewhat diminished in size.
Fig. 1p. Face of the larva.
Fig. 1q. Side of the head of the larva, showing the ocelli, antenna, upper lip, and mandibles.
Fig. 1r. Case formed by the female larva, opened, showing the exuviae of the larva, the pupa of the female pierced near its anal extremity by its dipterous parasites, the four oval puparia of which are seen lying within the case, the interior of which is densely lined with fine white cotton wool.
Fig. 1s. The pupa of the female, seen sideways.
Fig. 1t. Anterior part of the body of the pupa of the female, seen from beneath.
Details of Oiketicus Templetonii, Westw. (tertius, Templet.) Ceylon.
Fig. 2.1. Fore wing of the male, with the normal number of marginal branches.
Fig. 2.2. Hind wing of the male.
Fig. 2.3. Fore leg of the male.
Fig. 2.4. Anal extremity of the body of the pupa of the male.

Details of Oiketicus consortus, Templet. (Ceylon.)
Fig. 3.1. Fore wing of the male, with the normal number of marginal branches.
Fig. 3.2. Hind wing of the male.
Fig. 3.3. Fore leg of the male.
Fig. 4.4. Case formed by the male larva, with the empty pupa case partly sticking out of the apical extremity.

PLATE XXXVII.

Oiketicus Lewinii, Westw. (Australia.)
Fig. 1. Male, slightly magnified.
Fig. 1a. Fore leg of the male, with long tibial spur.
Fig. 1b. Hind leg of the male.
Fig. 1c. Fore wing of the male, with the normal number of marginal branches.
Fig. 1d. Hind wing of the male.
Fig. 1e. Case formed by the male larva, with the empty pupa case partly sticking out of the apical extremity.
Fig. 1f. Anterior portion of the body of the female, highly magnified and seen from beneath, showing the rudimental antennae and legs.
Fig. 1g. The same, seen sideways, showing the subcucullated prothoracic segment.

Oiketicus Boisduvalii, Westw. (Australia.)
Fig. 2. The male, slightly magnified.
Fig. 2a. Fore wing of the male, with the normal number of terminal branches.
Fig. 2b. Hind wing of the male.
Fig. 2c. Fore leg of the male.
Fig. 2d. Case formed by the male larva, with the empty pupa case of the male partly sticking out of the apical aperture.
Fig. 2e. Pupa of female, ventral view.
Fig. 2f. The same, dorsal view.
Fig. 2g. The same, lateral view.

Oiketicus Herrickii, Westw. (Australia.)
Fig. 3. The male, slightly magnified.
Fig. 3a. Antenna of the male.
Fig. 3b. Fore leg of the male, destitute of the tibial spur.
Fig. 3c. Fore wing of the male, with only eleven marginal branches, the lower discoidal (g) being obsolete.
Fig. 3d. Hind wing of the male.
Fig. 3e. Case formed by the male larva, with the empty pupa case partly sticking out of the apical aperture.

Oiketicus Cramerii, Westw. (Ceylon.)
Fig. 4. The male, slightly magnified.
Fig. 4a. The fore wing of the male, with the normal number of marginal branches.
Fig. 4b. The hind wing.
Fig. 4c. Fore leg of the male, with the long tibial spur.
Fig. 4d. Case, figured by Mr. Templeton, and considered to be that of this species, on the authority of specimens in the British Museum.
November 14, 1854.

John Gould, Esq., F.R.S., in the Chair.

The following papers were read:—

1. On the Bones of the Leg of Dinornis (Palapteryx) struthioides and the Palapteryx gracilis.

By Prof. Owen, F.R.S., F.Z.S. etc.

In my memoir of 1843*, I described two femora of birds from tertiary deposits in New Zealand, agreeing in size with that bone in the Ostrich, and referred them to a species called Dinornis struthioides; one of these specimens however consisted only of the shaft; the other and more perfect specimen, figured in pl. 21. fig. 3, was mutilated at both its extremities. I have since received, through the kindness of the Rev. Mr. Colenso, M.A.†, and the Rev. William Cotton, M.A., three entire specimens of femora, ranging between 11 and 12 inches in length, and the shaft of a fourth specimen, of the same species, confirming very satisfactorily that species, and completing our knowledge of the anatomical characters of the bone.

The head is rather more than a hemisphere, more prominent than in the Ostrich, and with a smaller proportion cut off, as it were, from the upper and outer part, and roughened for the attachment of the strong ligamentum rotundum. From the upper part of the base of the head, an almost flat, slightly concave surface ascends, expanding, as it rises, to the broad semicircular ridge which crowns the great trochanter. In the Ostrich that process does not rise beyond the level of the head of the bone. In the Din. struthioides the upper trochanterian platform is broader proportionally than in the Din. casuarinus‡. The anterior surface of the trochanter is also extensive through the continuation outwards of the great process: it is slightly concave, sculptured by muscular impressions with intervening ridges, and by a defined oval rough tract between the head and the base of the trochanter. The outer convex expanded surface of the trochanter is more strongly marked by the insertions of powerful tendons, surrounding an irregular smooth tract near the centre of the surface.

The back part of the upper end of the femur in two of the specimens presents two or three small holes leading into the superficial cancelli, by which it is possible a little air may have been admitted to these cavities; but this is a very feeble representation of the wide orifice and canal at the same part of the Ostrich's femur which conducts directly to the large air cavity in the body of that bone.

The shaft of the entire femur of the Din. struthioides repeats the characters described and figured in the memoir above cited. The fore-part of the external condyle begins to rise from the level of the

* Zool. Trans. vol. iii. pp. 247, 249. pl. 21. fig. 3.
† The specimen contributed by this gentleman is cited in the table of admmeasurements. Zool. Trans. vol. iii. p. 329.
‡ Ibid. pl. 46. fig. 2.
shaft, about one-third from the distal end of the bone, and bends outwards, forwards and downwards, increasing in breadth and convexity, and forming the outer boundary of the characteristic broad rotular surface. The convex fore-part of the inner condyle forming the inner boundary of that surface is shorter, and rises more abruptly. The deep oval fossa, above the vertical broad groove for the fibula, behind the outer condyle, is well marked. The orifice of the medullary artery is at the middle of the back part of the shaft of the femur in two of the specimens.

With regard to the metatarsus of the *Dinornis struthioides*, the same satisfactory confirmation of the species has been received, as in the case of the femur, by the addition of three specimens repeating the characters of the original bone described at p. 240, and figured in pl. 27. fig. 2. of my memoir of 1843. One of these specimens, kindly sent to me by J. R. Gowen, Esq., F.G.S., Sec. H.S., was discovered in the tertiary deposits at Waikawaite, Middle Island of New Zealand, and has the two extremities more entire than in the original specimen figured. The middle of the distal trochlea is impressed by a shallow groove running its whole length, and becoming more shallow as it approaches the contracted back part of the trochlea, which terminates abruptly, projecting beyond the level of the back part of the distal end of the bone.

A second of the additional specimens of the metatarsus of the *Din. struthioides* was obtained by the Rev. Wm. Cotton, M.A., at Tarawaite, in the North Island of New Zealand: a third specimen was discovered by Governor Sir George Grey, in a cave in the district which lies between the river Waikate and Mount Tongariro, in the North Island.

From the same cave Sir George Grey likewise obtained and very liberally transmitted to me, with a most valuable collection of other bones of *Dinornis* and *Palapteryx*, an entire tibia agreeing with the portion of shaft, which, from the dimensions given at vol. iii. p. 329, I was induced to refer to the *Dinornis struthioides*, differing in its size and proportions from all the tibiae previously described and referred to other species, but presenting similar relations of size to the femur and metatarsus of the *Din. struthioides*, which the previously described tibiae have presented to the other bones of the leg of the respective species to which those tibiae have been referred.

I conclude, therefore, that in the tibia transmitted with the metatarsus of the *Din. struthioides* by Sir George Grey, I possess the bone, which I have been so long desirous to obtain in order to complete the leg of the *Din. struthioides*. Like the metatarsus abovementioned, it is from the left side, and they appear to have belonged to the same individual bird.

The length of this bone is .................. 22 0
The breadth of the proximal extremity ...... 5 6
The breadth of the distal extremity .......... 3 2
The circumference of the middle of the shaft 5 0
The fibular ridge extends down ................ 10 0
This ridge begins, as in the tibiae of other species of *Dinornis*, below the expanded end of the tibia near the middle of its back part, inclining to its outer side.

In its slender proportions, and the relative positions of the procne- mial and ectocnemial ridges, the tibia of the *Dinornis struthioides* agrees with that of the *D. dromioides*.

*Description of the Bones of the Leg of the Dinornis gracilis.*

The advantage of additional specimens, as confirming, by the repetition of the same characters, a species previously defined, is still greater in respect of the ground which they afford for the discrimination of a distinct but nearly allied species. Notwithstanding the well-marked differences observable between the femur of the *Dinornis struthioides* and the *Dinornis gracilis*, I might have deemed them due to differences of sex or individuals, had I not had evidence of the fixity of the specific characters of the *Dinornis struthioides* by the successive arrivals of additional specimens of its bones. Attending the hoped-for confirmation from such arrivals, it appeared to be most prudent to refrain from announcing a new species of the rapidly increasing family of the great wingless birds of New Zealand until further confirmation might be obtained by corresponding differences in the tibiae and metatarsi of the two species.

Having had the good fortune at length to obtain these additional illustrations of the *Din. gracilis*, I no longer delay communicating descriptions and figures of them to the learned Society, in whose Transactions my former Memoirs have appeared and have been so liberally illustrated.

**Femur.**

The following are the chief dimensions of this bone:—

<table>
<thead>
<tr>
<th></th>
<th>in.</th>
<th>lin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Breadth of proximal end in the axis of the neck</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Breadth transverse of distal end</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Circumference of middle of shaft</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

A small portion of the upper ridge of the great trochanter has been broken off: when entire, the femur of the *Din. gracilis* presents the average length of that of the *Din. struthioides*, but it is more slender in proportion, the head is smaller, and is supported by a better-marked constriction or neck, especially at its under part. The upper platform of the trochanter is narrower, the anterior border of the trochanter not being extended so far forwards and outwards. The angle between the upper and fore surfaces of the trochanter is a right one, and they meet at a sharp ridge. The rough oval surface between the head of the femur and the base of the trochanter is smaller than that of the *Din. struthioides*. The outer irregular surface of the trochanter is of much less breadth in the *Din. gracilis*. The muscular impressions at the sides of the shaft meet and form a longitudinal ridge along the back part of the middle third of the
shaft: they are separated by a tract of half an inch in the *Dinornis struthioiodes*, and terminate below in two tuberosities. The corresponding ridge formed by the meeting of the vasti-muscles along the fore part of the shaft is shorter in *Din. gracilis* than in *Din. struthioiodes*.

The most marked distinction, however, is presented by the distal extremity of the bone, which is not only relatively less expanded in the *Din. gracilis*, but the rotular groove is narrower, and is bounded laterally by condyloid eminences of more nearly equal length; the external one not rising so high up, nor describing the sigmoid curve in descending, as in the *Din. struthioiodes*. The rotular groove in the *Din. gracilis* is impressed by a transversely oval rough depression, at its upper part, with sharp lateral borders; which depression does not appear in any of the femora of the *Din. struthioiodes*. The popliteal space is triangular and better defined in the *Din. gracilis*; the fibular groove is shorter and less angular, and the rough deep pit above it is smaller. The tibial surface on the inner condyle is relatively smaller.

**Tibia.**

The same character is repeated on the proximal end of this bone, where the surface applied to the inner condyle is absolutely smaller than in the *Din. struthioiodes*, although the entire bone, as shown in the subjoined admeasurements, is longer in the *Din. gracilis*: it is also, as the name of the species implies, more slender in proportion to its length.

<table>
<thead>
<tr>
<th><em>D. gracilis</em></th>
<th>in.</th>
<th>lin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The entire length of the bone is</td>
<td>23 6</td>
<td></td>
</tr>
<tr>
<td>The transverse breadth of its proximal end</td>
<td>5 2</td>
<td></td>
</tr>
<tr>
<td>The transverse breadth of its distal end</td>
<td>2 10</td>
<td></td>
</tr>
<tr>
<td>The circumference of the middle of the shaft</td>
<td>4 6</td>
<td></td>
</tr>
<tr>
<td>The fibular ridge extends down the shaft</td>
<td>9 6</td>
<td></td>
</tr>
</tbody>
</table>

But this ridge commences nearly 3 inches below the back part of the proximal end of the bone, nearer the outer side than in the *D. struthioiodes*: it is interrupted by an oblique smooth tract at the point indicated in the admeasurement, where the medullary artery penetrates the bone; it then reappears about one inch and a half below the interruption, and soon gradually subsides. This second lower part of a fibular ridge is better marked than in the *Din. struthioiodes*. The relative size and position of the procnemial and ectocnemial ridges are much the same as in the tibia of the *Din. struthioiodes* and *Din. dromioides*.

**Metatarsus.**

The difference between the *Din. struthioiodes* and the *Din. gracilis* is more obvious at first glance in a comparison of their metatarsi than in that of the above described bones; especially to an eye accustomed to the comparison of the metatarsi of the different species. The superior length and slenderness of that bone in the *Din. gracilis*
would at once prevent its being confounded with the metatarsus of the *Din. struthioiodes*.

The following are the chief dimensions of the bone in question: those of the extremities being approximative by reason of their worn margins:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of the tarso-metatarsus</td>
<td>13 0</td>
</tr>
<tr>
<td>Circumference at the middle of the shaft</td>
<td>4 3</td>
</tr>
<tr>
<td>Transverse breadth of proximal end</td>
<td>3 4</td>
</tr>
<tr>
<td>Transverse breadth of the distal end</td>
<td>4 3</td>
</tr>
<tr>
<td>Breadth of the middle of the shaft</td>
<td>1 7</td>
</tr>
<tr>
<td>Thickness or antero-posterior diameter of ditto</td>
<td>1 2</td>
</tr>
</tbody>
</table>

The depressed surface for the back toe is better marked than in the *Din. struthioiodes*.

This paper will appear in the Transactions of the Society, illustrated with figures of the bones.

2. Description of a new Tanager of the Genus Calliste.

By Philip Lutley Sclater, M.A.


Long. tota 4:5; alæ 2:5; caudæ 1:5 poll. Angl.

*Hab.* In Nova Grenada et in rep. Equatoriana provincia Quixos.

I have been acquainted with this pretty Calliste for some time, but have always considered it as the *xanthocephala* of Tschudi, and have described it as such in my “Synopsis of the genus Calliste” in the Contributions to Ornithology. But having lately had the opportunity of examining Tschudi’s type specimens in the Neuchâtel Museum, I find that his *Callospiza xanthocephala* is not this bird, but the same as my *Calliste lamprotis* (Cont. to Orn. 1851, p. 65). That species closely resembles the present, but may be distinguished by its orange cap and brilliant golden-yellow ear-coverts.

The extreme inaccuracy of Dr. Tschudi’s figure, which looks more like this species than the other, must be my excuse for committing this error, in which however I am not alone, as even in the Berlin Museum (where Tschudi’s types ought to be known) I have observed the present bird called *xanthocephala*.

Mr. Gould’s collection from Quixos contained examples of this species. My own specimens are from Santa Fe di Bogota.

London, Nov. 1851.
3. Description of a second species of the genus Procnias.
By Philip Lutley Sclater, M.A.

I have seen several examples of Procnias in collections from New
Grenada, and have never doubted their being different from the Bra-
zilian species. But being aware that a second member of the genus
had been described by Dr. Cabanis in the Museum Heineanum under
the appellation Procnias Heinei, I applied that name to these birds
without much inquiry. Having lately however had the oppor-
tunity of examining the beautiful collection which contains the type
of Dr. Cabanis' description, I find that I was in error in so doing.
The specimen there designated Procnias Heinei is a female or young
male of Calliste atricapilla, Lafr., and belongs therefore, according
to my ideas, to a different family of birds.

I therefore propose the name Procnias occidentalis for this new
species, which may be distinguished from the older one by its smaller
size, the less amount of black on the throat, and by the white belly
not extending nearly so high towards the breast.

Procnias occidentalis, Sclater. P. lute viridis: fronte angu-
ste et lateribus capitis cum mento gulaque nigris: ventre
medio crisoque albis: lateribus nigro radiatis: alis caudaque
intus nigrantibus.
Long. tota 5·0; alae 3·3; caudae 2·9 poll. Angl.
Hab. in Nova Grenada.

London, Nov. 1854.

4. Description of a new species of Petrogale.
By Dr. J. E. Gray, F.R.S., V.P.Z.S., etc.
(Mammalia, Pl. XXXIX.)

Yellow-legged Rock-Kangaroo, Petrogale xanthopus.
Pale brown, minutely grizzled; chin and beneath white; streak
on side from the back of shoulder, and along the side of the face
under the eye, whitish; dorsal streak narrow, brown; legs, feet, and
tail bright yellow; end of tail more bushy and varied with brown.
Australia (Richmond River?)
This species has all the markings as in Petrogale lateralis, but
differs in being of a much paler and yellower colour, and in the
bright yellow colour of the legs and basal part of the tail. It is
about the same size as P. penicillatus, or rather between it and
P. lateralis.
There are two specimens of this species (male and female) pro-
cured by Mr. Strange.
November 28, 1854.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. On a new species of Rhinoceros.
   By Dr. J. E. Gray, F.R.S., V.P.Z.S., etc.

The late Mr. Cross, of Exeter Change and the Surrey Zoological Gardens, much prized a specimen of the horn of a Rhinoceros, which for many years formed part of his collection, and which he considered as indicating the existence of a hitherto unrecorded species of that genus.

At the distribution of his effects, it has become the property of the British Museum; and it is so unlike any other horn of a Rhinoceros that has come under my inspection, that I am induced to believe that Mr. Cross was probably right in his conjecture; and

Horn of Cross's Rhinoceros (Rhinoceros Crossii).

I am inclined to describe the horn, and name the species Rhinoceros Crossii, provisionally, after my late friend, an honour he well deserves, from the unvarying kindness which he showed to all who were willing to make use of the collection in his possession for scien-
scientific purposes: this was the more liberal, when we consider that both these institutions entirely depended on public encouragement for their support. But he has yet a greater claim to respect; he was the most enterprising importer and purchaser of animals of modern times, and at the same time most successful in keeping them alive and in health.

**Rhinoceros Crossii.**

Horn black; trunk very slender, tapering, smooth, rather compressed at the end, curved nearly into a semicircle; base rather thick, subquadangular, rugose.

- Length of the horn along the curve alone: 31\(\frac{1}{4}\) in.
- Length of the cord from base to tip: 24 in.
- Circumference of base: 17\(\frac{3}{4}\) in.
- In the middle of horn: 4\(\frac{3}{4}\) in.
- Longest diameter of base: 6\(\frac{1}{2}\) in.
- Shortest diameter of base: 4\(\frac{3}{4}\) in.
- Thicker part of base: 5\(\frac{1}{2}\) in. high.

2. **On two New Species of Dacnis, and on the General Arrangement on the Genus.**

**By Philip Lutley Sclater, M.A.**

1. **Dacnis hartlaubi**, Sclater. *D. turcoso-caerulea*; gula loris et fascia per oculos lata cum cervice laterali et dorso superiore velutino-nigris; alis caudaque minus splendide nigris; secondariorum marginibus externis caeruleis; rostro et pedibus nigris. *Long. tota, 4*\(\frac{1}{2}\) *; alae 2*\(\frac{1}{2}\) *; caudæ 1*\(\frac{3}{4}\) *; poll. Angl.*

**Hab.** In Nova Grenada.

**Obs.** Similis *D. angelica*, sed major, gula nigra, ventre crissoque caeruleis concoloribus neque albis.

I have as yet seen only one example of this *Dacnis*, which is in the fine collection of birds in the Bremen Museum. In its upper colouring it resembles *D. angelica*, but wants the broad black front of that species. The lower plumage comes nearer that of *D. cayana*, but the black does not reach so far down the throat. It slightly exceeds the latter species in size. The bill and legs are black.

2. **Dacnis egregia**, Sclater. *D. turcoso-caerulea*; fronte gula loris et fascia per oculos lata cum cervice laterali, dorso superio, alis caudaque nigris; tectricibus alarum minoribus et secondariorum marginibus externe caeruleis; tectricibus subalaribus et ventre medio crissoque cum tibiis flavis.

**Hab.** In Nova Grenada.

**Obs.** Species *D. angelica* forma crassitie et coloribus fere equalis, sed ventre crissoque et tectricibus subalaribus flavis nec albis.

I am indebted to Mr. G. R. Gray for allowing me to name this pretty *Dacnis*, of which one specimen was lately acquired by the British Museum from M. Parzudaki of Paris. In its plumage above
it resembles _D. angelica_. A glance, however, at its lower surface, where a bright yellow takes the place of the pure white belly and under wing-coverts of the other species, is sufficient to show its distinctness.

Since I wrote some papers on the genus _Dacnis_ in Sir William Jardine’s ‘Contributions to Ornithology,’ Professor Reichenbach of Dresden has treated of this family in his ‘Handbuch der Speciellen Ornithologie,’ part iv. Professor Reichenbach is unpleasantly surprised, he there says, to find that I have described a _Dacnis cayana_, which is by no means _cayana_, but no other than his third species, _D. cyanomelas_. Now, I admit that my _D. cayana_ is nothing more than Prof. Reichenbach’s third species, which he calls _cyanomelas_; but I maintain that this very bird is no other than the true _cayana_ of Linnaeus. There is no such bird in existence as that characterized by Prof. Reichenbach as _cayana_. Brisson’s description, it is true, is bad, and Buffon’s figure worse, but they can be respectively intended for no other bird than the common black and blue species which is called by Prof. Reichenbach _D. cyanomelas_.

I am in my turn unpleasantly surprised to find that Prof. Reichenbach has removed my _Dacnis cærebicolor_ into his genus _Arbelorhina_, with which it has nothing to do; that he has made _Dacnis flaviventris_ of D’Orbigny’s Voyage a _Conirostrum_, which it certainly is not, and has unnaturally placed the hook-billed _Diglossæ_ in the middle of the typical _Dacnidæ_.

I subjoin a list of the nine species of the genus _Dacnis_ with which I am now acquainted, excluding the _atricapilla_ of my former synopsis, which Prof. Reichenbach has with some reason made the type of his new genus _Chlorophanes_.


4. **Dacnis angelica**, De Filippi. Cont. to Orn. 1851. p. 108. sp. 3.— Reich. p. 227. Ex Guiana; Cayenna; Nova Grenada; Peruvia Cisandeana et Bolivia.


(1) Pithys Baumhrophiæus, Sclater.
(2) Hypornemis Melanoma, Sclater.
FORMICIVORA CAUDATA
3. Descriptions of Six New Species of Birds of the Subfamily Formicariæ. By Philip Lutley Sclater, M.A.

(Aves, Pl. LXX.—LXXIV.)

1. Myrmeciza leucaspis, Sclater. (Pl. LXX.)

Supra cinnamomea, subitus alba; vitta laterali utrinque ab angulo oris ad ventrem descendente nigra; lateribus corporis cum ventre imo crissoque olivascenti-cinnamomeis; rostro nigro, mandibula inferiore, nisi basi, alba; pedibus pallidis; orbitis nudis.

Long tota 5·5; alæ, 2·8; caudæ 1·8.

Hab. In Peruvia, Chamicurros; in Nova Grenada; et Rio Negro, Cobati.

The first specimen of this bird that came into my possession seems by its make to be a Bogota skin. I have lately obtained a second from the MM. Verreaux of Paris, marked 'Peru.' But a more satisfactory locality is Chamicurros, on the Huallaga, one of the confluent of the Peruvian Amazon, whence Mr. Gould has lately received several examples, along with many other interesting birds. Mr. Gould's specimens were collected in the month of October, 1852. Male and female, so labeled, are coloured alike, and noted, "Irides red, skin around the eyes and legs light blue." My Bogota skin, and one in the MM. Verreaux's collection, have the base of the intercapularies light fawn-colour, forming a large blotch, which, however, as is often the case in the birds of this subfamily, is only to be seen when the feathers are raised.

A specimen of this bird in the British Museum is from Cobati, on the Rio Negro.

The upper plumage of the Myrmeciza leucaspis is wholly dark cinnamon-colour, and divided from the pure white of the lower surface by a black band. The wing-feathers are blackish within; the twelve rectrices are wholly darkish cinnamon-red. The white of the lower surface narrows as it descends, terminating in a point, and leaving the sides of the belly and crissum dusky olivaceous cinnamon-colour.

2. Myrmeciza margaritata, Sclater. (Pl. LXXI.)

♂ Cinereus, subitus diltior, ventre medio crissoque albescentibus; alis caudaque nigris, rectricum apicibus albís; remigibus secundaris et alarum atque caudae tectricibus superioribus omnibus maculis magnis, rotundis, albis terminatis.

♀ Fusco-brunnea; subitus pallide cervino-rusa; maculis alarum et caudae clare cervinis neque albis.

Long. tota 5·3; alæ 2·8; caudæ 1·8.

Hab. In Peruvia, Chamicurros.

My examples of this curiously marked bird were obtained from the MM. Verreaux, and are from the same locality as the preceding species. Mr. Gould's collection from Chamicurros likewise contains specimens of both sexes.

The round spots, which render this bird a very recognizable species, are placed in the wing-coverts at the apex of each feather. In the
secondaries they occupy the end of the outer web, being in the first six nearest the primaries rather small, in the three outer larger and squarer in form. The upper tail-coverts are much produced, and are conspicuously terminated with oval white spots. The tail-feathers are ended only with spots, which are larger on the outer rectrices.

3. Hypocnemis melanoleuca, Sclater. (Pl. LXXII. fig. 2.)

Cinereus, subtus valde dilutior; interscapularibus basi niveis; loris et oculorum ambitu cum cervice laterali et gutture toto nigris; linea superciliaris indistincte albida; rectricibus alarum nigris, fascia terminali alba; remigibus et rectricibus fuscis, externe cinereis; rostro nigro, pedibus pallidis.

Long. tota 5·0; alæ 2·5; caudæ 1·6.

Hab. In Peruvia, Chamicurus.

This species seems nearly allied in form to the bird named Hypocnemis paeclionota by Dr. Cabanis (Orn. Not. in Wiegm. Archiv, f. Nat. 1847. p. 213), and I have therefore placed it temporarily in the same genus. My specimen comes, like those of the preceding species, from MM. Verreaux’s Peruvian collection; and Mr. Gould has one example marked “male, irides red,” from Chamicurus, which agrees with mine. From the same Peruvian collection I have also Hypocnemis paeclionota (Cab.) and H. cantator (Bodd.), the type of the genus, or a species hardly to be distinguished therefrom.

4. Hypocnemis melanostricta, Sclater. (Pl. LXXIII.)

♂ Ex cinereo olivascens; interscapularibus basi niveis; rectricibus alarum nigris, albo anguste terminatis; loris et regione auriculai nigris; subtus cinereus, gutture toto et ventre medio albis; punctis paucis rotundis in summo pectore nigris; rostro nigro, pedibus pallidis.

♀ Supra rufescenti-olivacea, alarum tectricum marginibus et abdomine toto pallide ochraceis; gutture, sicut in mari, albo; mandibula inferiore, nisi apice, alba.

Long. tota 5·0; alæ 2·5; caudæ 1·6.

Hab. In Peruvia, Chamicurus.

The Peruvian collection of the MM. Verreaux contained several examples of this prettily marked Ant-Thrush, and Mr. Gould has also ♂ and ♀ from Chamicurus. Both sexes show the white blotch at the base of the interscapularies. In form they nearly resemble H. melanoilema and paeclionota. Below the white throat, both in male and female, are eight or ten round blackish spots, forming a sort of collar, which renders this species easily recognizable.

5. Formicivora caudata, Sclater. (Pl. LXXIV.)

♂ Supra niger albo-striatus; nucha nigra; dorso postico ferrugineo; alis caudaque nigris; tectricibus alarum albo, remigibus autem primaris et secondariis rufo limbatis; rectricum macula terminali alba; subtus albus, sparsi nigro-striatus; ventre crissoque clare ferrugineis.
Striis corporis superioris et tectricum alarum marginibus sub-rufescentibus; dorso postico et ventre dilutius ferrugineis; striis pectoris sparsioribus, in gula fere evanescentibus.

Long. tota 5'8; alæ 2'1; caudae 3'1.

Hab. In Nova Grenada.

A close ally of Formicivora ferruginea (Temm.) and its affines, from all of which, however, it may be distinguished by its extremely lengthened tail. My specimens were purchased in Paris, and are Bogota skins.

6. Pithys erythrophrys, Sclater. (Pl. LXXII. fig. 1.)

Olivaceo-brunneus, subitus medialiter albus; fronte loris et regione superciliari utrinque clare ferrugineis; loris et regione auriculari nigris; striis quibusdam indistinctis in lateribus pectoris cinereis; alis caudaque nigricanti-brunneis, illius remigibus clare rufobrunneo limbatis et tectricibus omnibus maculis parvis terminalibus albis.

Long. tota 4'5; alæ 2'7; caudae 1'7.

Hab. In Nova Grenada.

This is not a true Pithys, I think, but I have placed it as such, as being allied to Pithys leucophrys ex Nova Grenada. But is the New Grenadian bird really identical with Tschudi's Pithys leucophrys?


Family Fringillidæ.

Sub-Family Pyrrhulinæ.

Genus Pyrrhulauda.

Pyrrhulauda cruciger (Temm.).

Black-bellied Finch Lark.

This little finch lark is common in Western India, on open plains and grassy plots of ground. It is remarkable for its habit of squatting close on the ground when approached, trusting most probably to the similarity in colour of the plumage of the wings and back with that of the burnt grass and dusty ground to escape notice. This little lark breeds during the months of January and February, building its nest, which is composed of grass, threads, &c., in a hollow in the grassy plains which it inhabits. A nest of this species which was brought to me at the end of January was composed chiefly of grass; it contained two small eggs, of a grey tint, speckled with brown. They have been unfortunately broken. Dr. Jerdon says: "I was fortunate enough to obtain the nest and eggs of this bird very lately (February). The nest is composed of woven thread mingled with some fibres of grass and one or two small fragments of cloth. The sides are hardly raised at all; it
was placed in a slight hollow on the open plain near a river, and contained two eggs, of a slight greenish-grey tint spotted with brown, chiefly at the larger end."

Tribe Scansores.
Family Psittacidae.
Sub-family Macrocercinae.
Genus Palæornis.

Palæornis torquatus, Vigors.
The Red-ringed Parrakeet is by far the most common of its tribe throughout Western India, as probably throughout that continent. They associate in large flocks, doing much injury to fruit-trees and crops of grain. As the grain-crops ripen, they frequent the trees in the neighbourhood, whence they make descents on the fields, retiring to them with the heads of the grain plants, to eat at their leisure. As far as my observations go, they prefer carrying off the ears of the plant to eating the grain in the field. On the approach of night they retire in large flocks to the shelter of thick mango and other trees. This Parrakeet breeds during the month of March, in holes in buildings and trees, laying three or four eggs, of a pure white colour, 1 3/10ths of an inch in length by 1 inch in width.

Palæornis Alexandri. Large red-ringed Parrakeet.
I have never met with this large species, but I see that Dr. Jerdon mentions having obtained four young ones from a hole in a tree, in the month of December.

Palæornis bengalensis. Red-headed or Plum-headed Parrakeet.
I have had many opportunities of watching and closely observing the habits of these handsome little parrakeets, and am convinced that they are one and the same bird, the red-head being the mark of an advanced, if not mature plumage. In young birds, the plum-colour of the head is much mixed with green, the former colour becoming decided as the birds grow older, and this again giving way to the red head-dress. I have met with these birds in the woody ravines and recesses amongst the lower ranges of hills in the Deccan, also in the thickly-wooded garden-land near the cantonments of Ahmednuggur. In this latter spot I have often watched them in the hope of securing one of the richly-coloured red-headed birds. They fly in flocks like Palæornis torquatus, visiting the grain-fields, and carrying off the ears to the neighbouring trees. Their cry is not so loud and harsh as that of their larger brethren, and they may thus be distinguished when not seen. I scarcely ever saw more than two or three red-headed birds amongst a flock of plum-heads. I have not met with the nest or eggs of this species, but
from the very immature plumage of young birds which I shot in January, I should say that they breed in November and December.

Family Cuculidae.

Subfamily Cuculinae.

Genus Eudynamys.

Eudynamys maculatus. Black Cuckoo or Kowee.

Not having met with the nest and eggs of this cuckoo, I am indebted to Dr. Jerdon's catalogue for the following note on the subject:—"The kowee (as is well known in India) lays its eggs in the nest of the common crow (C. splendens), from which it dislodges the crows' eggs. It is said always to choose this crow's nest. On one occasion I obtained an egg from the female kowee; it was of a dirty blue colour, marked with some dusky spots."

Genus Centropus.

Centropus philippensis (Cuv.). Lark-heeled Cuckoo.

This very common cuckoo, called by many Europeans in India "the Malabar Pheasant," is a bird remarkable for its appearance, and peculiarly loud cry. Its bright chestnut wings and long tail render it conspicuous, and from the length of the latter, the name of Pheasant has doubtless been applied to it. Like others of its kind, it is fond of thickets and hedges, under the latter of which it may often be observed walking about and picking up its food, which consists of lizards, seeds and insects. Though classed in the family of the Cuculidae, this bird differs from Cuculus canorus and Eudynamys maculatus in one marked respect, viz. that it does not deposit its eggs in the nest of another bird. Like the yellow-billed American cuckoo, Coccyzus Americanus (Jenyns), it builds its own nest, but whether, as Mr. Yarrell mentions, in the case of the American bird, its egg is ever found in another bird's nest, I cannot say: I never heard of such a case.

The lark-heeled cuckoo breeds in the spring of the year, as early as January and as late as April. It builds its nest in hedges and trees; the nest is composed of grass and small twigs. The eggs, generally three in number, are of an opaque white, 1½ inch in length by 1 inch and 3/6ths in width. The exterior of the shell is of a peculiarly soft, chalky texture, which soon becomes scratched and stained.

Tribe Tenuirostres.

Family Cinnyridae.

Cinnyris orientalis, Frankl. Purple Honeysucker.

As I am anxious to make these papers as complete as possible on the nests and eggs of the birds of Western India, I have taken the No. CCLXXVI.—Proceedings of the Zoological Society.
liberty of transcribing some of the observations made by Dr. Jerdon of the Madras cavalry, in cases where I have not been able to obtain information. With regard to the nest and eggs of this honey-sucker he says: "I have lately (February) seen the nest of this pretty little bird close to a house in Jaulnat. It was commenced on a thick spider's web, by attaching to it various fragments of paper, cloth, straw, grass, and other substances, till it had secured a firm hold of the twig to which the web adhered, and the nest suspended on this was then completed by adding other fragments of the same materials. The hole is at one side near the top, and has a slight projecting roof or awning over it. The female laid two eggs, of a greenish-grey tinge, spotted with dusky. The first nest it made was accidentally destroyed after two eggs had been laid, and the couple immediately commenced building another in a small tree at the other side of the door, and, as in the first instance, commenced their operations on a fragment of a spider's web. They reared two young ones from the nest."


1. Gyps bengalensis.
   Vultur bengalensis, Gmelin. (young).  
   Vultur Changou, Daudin. (adult).  
   Vultur leuconotus, Gray and Hardw. Ill. Ind. Zool. i. t. 14 (adult).  
Gould, Birds of Asia, t. 35.  
Vultur indicus, Scopoli. ? Sonn. Voy. t. 105?  
A specimen agreeing with those collected in the Dukhun by Col. Sykes.

2. Hierax cœrulescens.
   Falco fringillarius, Drapiez, Dict. Class. t. 21.  
   Allap or Allap Allap of the Javanese (Horsf.).  
   Seeap Belang of the Malays in Penang (Cantor).  
"The Indian species of these tiny Falcons (which weigh but a few ounces) are trained for hawking in the Upper Provinces, being flown at quails and other game of corresponding size, as I have been informed," remarks Mr. Blyth, "by different eye-witnesses of the sport." Captain Mundy, in his 'Sketches of a Tour in India,' ii. p. 25, thus describes it:—"We had also some amusing sport with another kind of falcon, a very small bird, perhaps barely so large as a thrush, and its prey was proportioned to its strength. It is flown

* Presented to the Museum of the Honourable East India Company, April 1854.
at quails, sparrows, and others of the like calibre. The mode of
starting it is different from that used with any other hawk. The
falconer holds the little well-drilled savage within the grasp of his
hand, the head and tail protruding at either end, and the plumage
carefully smoothed down. When he arrives within twenty or thirty
yards of the quarry the sportsman throws his hawk, much as he
would a cricket-ball, in the direction of it. The little creature gains
his wings in an instant, and strikes his game after the manner of the
Bhouse (Astur palumbarius)."


Elanus melanopterus of India and Malasia, Auctorum.

Angkal-Angkal of the Javanese (Horsf.).

Kupasee and Chanwa of the Hindoos (Jerdon).

Mr. Hodgson gives the following notice of the habits of this bird.
"The Chanwa, or Black-wing, quests chiefly in the morning and
evening, feeding upon small birds, insects and mice. It does not
usually seize upon the wing, though its hunting be, for the most
part, by continuous questing. Commonly, it is seen skimming the
cultivation like a Circus, occasionally poising itself on the wing for
the purpose of getting a distincter view of some mouse, small bird,
or insect which has stirred on his beat, and upon which, when clearly
perceived, it stoops perpendicularly with the speed of lightning.
After a while, it will resort to some low roost, and, when relieved,
commence another excursion, or, perchance, sit and watch there for
its prey. Its forward flight is easy, low, and silent, but very effective
in evolution, when exertion is required to capture such nimble game
as mice, which constitute its ordinary food. It frequently whips off
insects from the stalks of standing grain, and this feat is, of course,
accomplished on the wing. I have also seen it pursue cuckoos and
sparrows with uncommon energy, but I never witnessed it strike a
bird in the air. The Chanwa doubtless can, and sometimes does,
seize its feathered prey on the wing."


Milvus cheele, Jerdon, Madras Journ. x. p. 71.

Haliaet us lineatus, Gray’s Ill. Zool., i. t. 18.

Milvus indicus et subhimalayanus, Hodgson.
The Govinda kite.

Cheel or Chil of the Hindoos (Hamilton).

From Pinang.

5. Spizæ̈tus limnæ̈tus.


Astur unicolor, Temminck, Pl. Col. 134.

Wuru-kawa of the Javanese (Horsf.).


Falco cirrhatus, Gmelin.
Falco caligatus, Raffles, Trans. Linn. Soc. XIII. p. 278.
Nisaëtus nipalensis, (crestless var.), Hodgson.
Nisaëtus pallidus, Hodgson. (jun.)
Falco cristatellus, Temminck, Pl. Col. 282.
Falco Lathami, Tickell (nee Gray).
Lang Tambikar of the Javanese. (Horsf.)
Shal Baz and Sadal of the Hindoos. (Elliott.)

7. Accipiter virgatus.
Accipiter besra et A. fringillarius, Jerdon, Catal.
Accipiter affinis, Hodgson.
Acc. Dussamieri, Sykes (nee Temm.).
A single specimen, in the young state, was obtained at Pinang.

8. Hematornis bacha.
Falco bacha, Daudin. (Levaill., Ois. d’Afr., t. 15.)
Spilornis bacha, G. R. Gray.
Falco bido, Horsfield.
Bido of the Javanese. (Horsf.).
I have compared specimens of Dr. Horsfield’s F. bido with Levail-

tant’s figure, and have found them to agree in every respect.

Falco ichthyaetus, Horsfield. (Zool. Res. in Java, t. 34.)
Haliaëtus plumbeus, Hodgson.
Ichthyaëtus bicolor, G. R. Gray.
Ichthyaëtus Horsfieldii (Hodgs.), Blyth.
Ichthyaëtus hucarius, Hodgson.
The Marine Eagle.
Jokowuru of the Javanese (Horsf.).
Madhuya of the Hindoo’s (Hamilton).
Match morol (i. e. ‘fish-tyrant’) of the Bengalese (Blyth).
“This bird is found in Java near lakes, or on the banks of large
rivers. It is by no means generally distributed. I met with it in
two situations only, one near the banks of the river of Kediri, in the
eastern district, and the other near the middle of the island, on the
hills of Prowoto, about twenty miles south-east of Samarang. Here
a pair of these birds had established themselves for several years near
a village on the confines of an extensive lake formed by the accumu-
lation of water during the period of rains, and distinguished by the
name of Rawa (lake) of Damak. Their nest was built on the top of
a large tree, and was constructed in a rude manner, of branches of
trees; the branches which were placed on the exterior were more
than an inch in diameter; the inside was lined with small twigs; it
was irregularly round, and very slightly excavated. The birds were
surprised during the period of incubation. The male bird, on being
captured, permitted itself to be seized by the native without
making any resistance. When brought to me, lying in the arms of
the man, apparently conscious of its situation, and without making use of its claws or bill, or exerting any effort to extricate itself, it suffered itself to be handled and examined very patiently. On being placed in a large cage, it made a few efforts in the beginning to set itself at liberty, but finding them ineffectual, it soon desisted, and by its calmness and dignity of manners, exhibited a resemblance to the more noble species of falcons. During the first days of its confinement it refused food altogether, but on becoming hungry, a fish was quietly placed in its bill, which was finally swallowed with great caution; and it soon took greedily the fishes which were liberally supplied. Its usual attitude was with the bill half open, and it appeared to have frequent thirst, and took up copious draughts of water. The pair of birds which I obtained on these hills had been carefully observed by the natives for several years. Their cry resembled that of the osprey. They lived exclusively on fishes. They never attacked fowls or other animals. They daily resorted to the lake above mentioned, over which, suspended in the air, or sailing slowly along, they watched their prey. On observing a fish, they darted on it with impetuous velocity; more rarely they pursued a more passive conduct, and watched the lake from the trees in its neighbourhood." (Horsfield.)


“Allied to P. ichthyætus, but considerably smaller, being under 2 feet in length; the wings 14 inches, and tail, which is a little wedged, 8 2/3 inches; bill over curve, including cere, 1 2/3ths; and 1 4/5ths from tip of upper mandible to gape; tarse 2 1/2 inches; the talons large, and all (as in P. ichthyætus) completely rounded, with the exception of that of the middle toe; 4th and 5th primaries equal and longest, a little exceeding the 3rd and 6th.”

11. Haliaétus leucogaster.
Falco leucogaster, Gmelin.
Falco blagrus, Daudin.
Falco dimidiatus, Raffles.
Halialætus sphenurus, Gould. (young.)
Ichthyætus cutrunguis, Blyth. (the semi-adult.)
Blagrus leucogaster, Blyth.
Falco maritimus, Gmelin.
The Maritime Eagle, Latham. (the adult.)
Kampanaur Eagle, Latham. (the semi-adult.)
Samp-mar (‘snake-killer’) of the Hiudoos (Blyth).
Lang-laut of the Malays of Sumatra (Raffles).

Falco indus, Boddaërt.
Falco ponticerianus, Gmelin.
Dentiger ponticerianus, Hodgson.
Milvus rotundicaudus, Hodgson.
Brahminy Kite of Europeans in India.
Lang Bondol of the Malays of Sumatra (Raffles).
Ulung of the Javanese (Horsf.).

"Europeans have given this bird the appellation of Brahminy Kite; which originates in having observed that the Hindoos attach superstitious ideas to it. Among the Mahommedans there is a prevalent notion that when two armies are about to engage, the appearance of one of these birds over either party prognosticates victory to that side." (Pearson.)

Strix radiata, Tickell, J. A. S. Beng. 1833, p. 572.
Noctua perlineata, Hodgson, J. A. S. Beng. 1837, p. 369.
Jungle Chooghd of the Hindoos (Jerdon).

A single specimen of this pretty little owl was obtained at Keddah (Malayan Peninsula), agreeing in every respect with those obtained from India. This is, I believe, the first indication of its having been found in the Malayan Peninsula.

Strix scutulata, Raffles, Trans. Linn. Soc. XIII. p. 280 (1821).
Strix hirsuta, Temminck, Pl. Col. 289.
Strix lugubris, Tickell, J. A. S. Beng. 1832, p. 457.
Ninox nipalensis et N. Jeridius, Hodgson.
Athene malayensis, Eyton.
Strix hirsuta japonica, Schlegel, Faun. Japon. t. 9 B.
Strix infusta, Hamilton, MSS.
Kal Pechak of the Bengalese (Hamilton).
Chooghd Bersuh of the Hindoos (ditto).
Kheng-boop of the Arracanese (Blyth).
Raja Walî of the Malays.
"Irides king's-yellow; bill black; feet reddish." (Cantor.) Also inhabits N. India and Tenasserim.

15. Ephialtes Lempiji.
Strix noctula (Reinw.), Temminck, Pl. Col. 99.
Scops javanicus, Lesson.
Scops lettia, Hodgson.
Scops lettoides, Jerdon.
Scops griseus, Jerdon.
Lempiji of the Javanese (Horsf.).
Tharkavi Chooghd seu Lattya Cudyal of the Nepalese (Hodgs.).

16. Bubo orientalis.
Strix orientalis, Horsfield, Trans. Linn. Soc. XIII. p. 140.
Strix sumatrana, Raffles.
Strix strepitans, Temminck, Pl. Col. 174. 229. (jun.)
Huhua nipalensis, Hodgson.
Huhua pectoralis, Jerdon.
HUHU and HUHU CHIL of the Nepalese (Hodgs.).
OUMAN of the natives of Malabar (Jerdon).
“Iris dull brown; bill dull yellow; feet yellowish buff.” (Cantor.)
A single adult specimen of this rare species was obtained at Malacca.

Strix ceylonensis apud Lath. et Temm., Pl. Col. 74.
Blo ketupa of the Javanese (Horsf.).
Tamba seu Ketombo Ratanapye; Hanta; Burong Pelew of the Malays (Blyth).
“Iris round, brilliant yellow.” (Cantor.)
Common at Pinang.

18. Pholidus badius.
Wowo Wiwi or Kalong Wiwi of the Javanese (Horsf.).
Burong Antoo, Pinang. Cantor.
“The Wowo-wiwi is rarely met with in Java. It never visits the villages, but resides in the closest forests, which are the usual resort of the tiger. The natives even assert that it approaches this animal with the same familiarity with which the Jallak (Pastor Jalla, Horsf.) approaches the buffalo, and that it has no dread to alight on the tiger’s back. It is never seen in confinement.” Horsfield. It also inhabits Nepal, Sikim, Assam and Arracan.

Strix pagodarum, Temminck, Pl. Col. 230.
Selo-puto of the Javanese (Horsf.).
A single specimen obtained at Pinang.

Merops typicus, Hodgson, Gray’s Zool. Misc. (1844) p. 82.
Kachangan of the Javanese (Horsf.).
Biri Biri of the Malays in Sumatra (Raffles).

Merops bicolor, Boddaert.
Merops sumatranus, Raffles.
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The Chestnut Bee-eater.

(Levaill. Guep. t. 15.)
Merops Leschenaulti, Vieillot.
Merops urica, Horsfield, Trans. Linn. Soc. XIII. p. 172; Swains.
Zool. Ill. n. s. t. 8.
Pirik of the Javanese (Horsf.).
Found also in India and Ceylon.

23. Nyctiornis amicta.
Merops amictus, Temminck, Pl. Col. 310; Gould, Birds of Asia.
Nyctiornis amicta, Swainson, Zool. Ill., 2nd Ser. t. 56.
Kay Chua of the Malays (Eyton).

24. Hirundo panayana, Gmelin.
H. gutturalis, Scopoli.
H. javanica, Sparmann, Mus. Carls. IV. t. 100.
H. javanica, Sykes, P. Z. S. 1832, p. 83.
H. rusticoides, Kuhl.
H. rustica, Meyen. (Temm. Pl. Col. 83. f. 2.)

(1844).
VII. p. 300.
Bungalow Swallow, of residents in the Neilgherries (Jerdon).
Forehead, chin, throat and upper part of breast deep rufous;
plumage above glossy blue-black; beneath dusky cinereous; wings
and tail dusky black, the latter with a white spot near the tip on all
but the two centre feathers; under tail-coverts blackish, edged with
white, Bill and legs black.
Length 4.5 inches; of wing 4.25ths; tail (very slightly forked) 2;
bill to front 2.25ths, to gape 5.10ths; and tarsus 3.75ths of an inch.
“Common in the Neilgherries,” remarks Mr. Jerdon, [and also
in the Malay countries] “and builds its nest in retired or deserted
bungalows, out-houses, &c., making a small mud nest, quite open at
the top, and profusely lined with feathers.”

t. 39.

XVIII. p. 807. (1849.)
“Resembles C. affinis, but is larger, deeper coloured, with the
tail-feathers conspicuously more pointed, and the outermost mea-
suring a quarter of an inch longer than the middle ones. Wing 5 ¼ inches; tail 2 3/4th. General colour much blacker than in C. affinis, the upper and lower tail-covers being quite black; the white band on the rump is narrower and less purely white; and the white of the throat is also less pure."

"The nidification is also remarkably different," says Mr. Blyth; "several pairs inhabiting a continuous common nest, which is affixed to an eave in the manner of that of Chelidon urbica, or of Cyp. affinis; the latter species, however (so far as we have observed), so placing its nest as to be concealed, or at least rendered inconspicuous by a rafter or other object in front." According to the account received from Col. Low, a colony of Cyp. subfuscratus inhabited the verandah of a house in the island of Pinang. "They began with a pair, and now compose a harmonious family of about sixteen or eighteen. The nests are fastened to the beam much in the same way as the nest of the swallow (Chelidon urbica?), but their nidificatory habits differ from those of the latter birds by their running two, three, or more nests into one. There were about six or eight birds in one specimen of the nest, which had three apertures. They seem to keep a regular watch at night, for on the least noise the sentinel pipes a little, and is then followed by all the rest. They lay two eggs, and are not migratory,—at least my friends are not, for they have been domiciled upwards of a year where they are now. The nest above noticed is a beautiful fabric in its way, remarkably light and compact; being composed of feathers and other light substances firmly bound together by a good deal of the saliva-like gluten. Several shed primaries and other feathers of the birds themselves, doubtless cast within the nest, are thus fastened in to add to the lining. The only aperture visible, now that the nest has been cut away from its place of attachment, is a somewhat prolonged entrance at one extremity; and there appear to be but two depressions adapted for the reception of eggs, which renders it probable that several of its inhabitants were the young of a former brood, or perhaps broods. The total length of the interior is 12 inches, by nearly 5 inches where broadest; and this capacity would indicate that it is intended as much for a habitation for a number of the birds as for the ordinary purpose of incubation. Procuring some nests of Cyp. affinis for comparison, the size of these also indicates the fact that they are similarly inhabited; but it would appear that there is no convenience in them for more than one pair of birds to incubate. They consist of a much thicker and heavier mass of material than the nest of C. subfuscatus; but where two are built in contact, the wall of separation is thin, though we suspect it will be always found intact and completely separated. During the night C. affinis is equally vigilant with its Malayan representative. The latter would appear to be the common house Swift of the Malayan peninsula, taking the place of C. affinis of India; while C. vittatus would seem to be exclusively a mountain species, and which has been obtained by Capt. Hutton from the Tyne range of mountains near Simla."

Common at Pinang.—Cantor.
28. **ACANTHYLIS GIGANTEUS.**

*Cypselus giganteus*, Temminck, Pl. Col. 364.

*ACANTHYLIS CAUDACUTA*, apud Blyth. Catalogue.

"Iris blackish brown; bill black; feet dirty cobalt."—Cantor.

Inhabits the Neilgherries, Ceylon, Arakan, and the Malayan peninsula.

29. **BATRACHOSTOMUS AURITUS.**


*Batrachostomus auritus*, Gould, Icones Avium, t. 7.


30. **BATRACHOSTOMUS STELLATUS.**


I have compared the specimens of this bird in Mr. Gould's collection with those collected in Malacca by Dr. Cantor, with which they quite agree. This is quite distinct from *B. javanensis*, Horsf.; *P. cornutus*, Temm.


*Eurostopodus Temmincki*, G. R. Gray, Gen. of Birds.


*Caprimulgus imberbis*, Temm. MSS.

"Crown of the head greyish brown, minutely barred with black, many of the feathers having a black spot at the apex; throat barred with rich chestnut and black; round the neck a collar, which is white anteriorly, and buff posteriorly; egret short and black; chest blackish, freckled with chestnut; back ornamented with tints of chestnut and fawn, spotted and irregularly freckled with black; quills blackish brown, with nearly obsolete bars of chestnut; under-surface pale buff mingled with black, which latter colour occupies the base of each feather; tail brownish black, with interrupted bars of chestnut. Bill and legs brown."

Length 10 inches; of wing 8; tail 5 1/4; bill to gape 1 1/4, and tarsus 1/2 an inch.


*Caprimulgus cinerascens*, Vieillot.

*Caprimulgus saturator*, Hodgson.

*Caprimulgus innotatus*, Hodgson (jun.).

Specimens from Malacca agreeing with those obtained at Nepal.

**Tamplana Lilin** of the Malays. (Eyton.)

Common at Malacca.


*Eurylaimus Rafflesii*, Lesson.  
**Tamplana Qilin** of the Malays. (Blyth.)

36. **Corydon sumatranus**.  
*Corydon sumatranus*, Strickland. (Gould, Birds of Asia.)  
*Corydon Temminckii*, Lesson, Man. d'Orn. i. p. 177.  
**Kung-quait** of the Malays. (Blyth.)

37. **Cymbirhynchus macrorhynchus**.

*Todus macrorhynchus*, Gmelin. (Gould, Birds of Asia.)  
*Todus nasutus*, Latham. (Temm. Pl. Col. 154.)  
**Burong Palano** or **Tampalano** of the Malays in Sumatra. (Raffles.)  
**Burong Ujun**. (Eyton.)

"This species," says Sir Stamford Raffles, "is found in the interior of Sumatra, frequenting the banks of rivers and lakes, and feeding on insects and worms. It builds its nest pendent from the branch of a tree or bush which overhangs the water, and is said to lay two eggs."

Mr. Blyth also remarks: "This bird is common in Tenasserim in watery situations, and suspends its nearly globular nest, which is constructed of small twigs, from the branches of trees growing directly out of the water. The eggs are four in number, and pale spotless blue. The beak and eyes are very fine blue, the former fading within a day or two after death."

*Calyptomena Rafflesii* et *C. caudacuta*, Swainson.  
**Burong Tampo** of the Malays in Sumatra. (Raffles.)  
**Siebo** of the Malays. (Eyton.)  
Not uncommon at Pinang.

39. **Eurystomus orientalis**.  
*Coracias orientalis*, Linnaeus.  
*Eurystomus cyanicollis* et *E. fuscicapillus*, Vieillot.  
*Eurystomus calornyx*, Hodgson.  
**Tiong Batu** of the Malays in Sumatra. (Raffles.)  
**Tiong Lampay** of the Malays. (Eyton.)


Tengke-watu of the Javanese (Horsf.), and Kaing Kaing Kimba of the Malays (Eyton).

“This is an extremely rare and local bird,” says Dr. Horsfield, “and I found it once only, in a low range of hills, about twenty miles south-east of Samarang, known in the central parts of the island (Java) by the name of the hills of Prowoto. Here a single [male] bird was obtained in the forest.”

Several examples of both sexes were collected at Malacca.

41. *Halcyon leucocephalus*.

_Alcedo leucocephala_, Gmelin.

*H. javanica*, Shaw.


The white-headed and Gurial Kingfishers of Latham.

Tengkebuto of the Javanese (Horsf.).

Bang-kako of the Malays of Sumatra (Raffles).

Burong-kaka of the Malays (Eyton).

Gurial of the Bengalese (Buch. Hamilt.).

Malah-Poymah, i.e. “jungle kingfisher,” of the inhabitants of Malabar (Jerdon).

I do not see sufficient distinction between the Malayan and Indian birds to warrant their separation.

42. *Halcyon atricapillus*.

_Alcedo atricapilla_, Gmelin.

*H. pileata* (Bodd) apud G. R. Gray, Gen. of Birds, i. p. 79.

Burong Udang of the Malays of Sumatra (Raffles).

This would appear to be tolerably common at Pinang, at which place this species was collected. Also inhabits India.

43. *Halcyon smyrnensis*.


*Alcedo fusca*, Boddaërt.

Found at Pinang and Malacca.

44. *Todiramphus varius*.


“Adult male (and perhaps the adult of either sex) have the cap green, rufescent on the forehead, and margined posteriorly with verditer; a broad black stripe commences at the lores, and meets its opposite behind; above this is a very large rich purplish-blue moustache, commencing at the base of the lower mandible; the nape and breast are brilliant ferruginous, paling on the throat and belly, and the mantle, wings and tail, are deep purplish-blue, each feather touched with ultramarine-blue on the wings, while the rump and
upper tail-coverts are vivid verditer; bordering the ferruginous of the nape is a band of deep black. Bill dusky above, the rest apparently yellow; and less probably coral-red. The young have the mantle and wings dark-green, with a terminal pale fulvous spot on each feather, imparting a pretty speckled appearance.”

Two examples of this fine kingfisher were collected at Malacca.

45. **Todiramphus collaris**.
   *Alcedo collaris*, Scopoli.
   *Halcyon collaris*, Swainson, Zool. Ill. t. 577.
   *Todiramphus collaris*, Blyth, Catal.
   *Alcedo chlorocephala*, Gmelin.

The white-collared kingfisher.

TENGEK seu TENGKE-CHÉGER of the Javanese (Horsf.).

NAC-THA-CHÔP-FOU of the Siamese (Finlayson).

“Irides dark brown; legs shining greenish grey.”—Cantor. A single specimen procured at Pinang.

46. **Alcedo bengalensis**, Gmelin.

RAJA-WHODAN of the Malays.

From Pinang.


*Alcedo asiatica*, Swainson, Zool. Ill. n. s. t. 50.

*MENINTING of the Javanese (Horsf.).

BINTI of the Malays of Sumatra (Raffles).

Three examples of this exceedingly beautiful species procured at Malacca.

48. **Ceryle rudis**.

*Alcedo rudis*, Linnæus.

*Ispida bicincta et I. bitorquata*, Swainson.

A single specimen from Keddah.

49. **Ceyx tridactyla**.


*Alcedo purpurea*, Gmelin.

*Alcedo rubra*, Boddaert.

*Alcedo erythaca*, var. β. Latham.

*Ceyx luzoniensis*, Stephens.

*Ceyx microsoma*, Burton.

Raja Whodan of the Malays (Eyton).
Dein-ngyeen of the Arracanese (Blyth).
This is a rare bird on the continent of India. It has been obtained in the Carnatic by Mr. Jerdon, and it has also been found, though rarely, on the west coast, and in the Deccan. A single specimen has been obtained in Nepal by Mr. Hodgson, which exactly agrees with Jerdon's figure and those obtained from Pinang by Dr. Cantor. It occurs in Arracan, where it appears to be not very uncommon.

Alcedo tridactyla apud Horsfield et Raffles.
Ceyx tridactyla apud Jardine et Selby, Ill. Orn. t. 55. f. 2.
Alcedo purpurea, var. Shaw.
Chuchack-wrang of the Javanese (Horsf.).
Binti Arang of the Malays in Sumatra (Raffles).
Distinguished from the last by having the whole back and wing-coverts, as well as the crown, rump and tail rufous, with a brilliant lilac tint. The dark blue spot on the front and ears is much less marked than in C. tridactyla. Lower parts orange-yellow, chin white.

Tchitrea paradisi of Malasia, Auctorum.
? Muscipeta castanea, Temminck.
The Malayan Paradise Flycatcher.
The inferior size, and the much shorter and different-looking crest, afford invariable distinctions, by which this species may be recognized apart from Tch. paradisi.

52. Philentoma velatum.
Drymophilia velata, Temminck, Pl. Col. 334. (the male.)
Monarcha velata, G. R. Gray, Gen. of Birds, i. p. 260.
The general colour of this bird is dark indigo-blue; the male differing from the female in having a rich claret-coloured breast, black throat, cheeks, superciliary stripe and forehead, while in the female the whole plumage is uniform blue, though perhaps darkest on the throat and breast.

53. Hemichelidon latirostris.
Muscicapa latirostris, Raffles, Trans. Linn. Soc. XIII. p. 312.
Muscicapa poonensis, Sykes, P. Z. S. 1832, p. 85.
"Colour, greyish-brown above, sometimes a little tinged with rufescent; throat, gorget, belly, and under tail-coverts white, with a slight fulvous tinge on the former; the breast and flanks dull ashy brown, as also the front of the neck contiguous to the ear-coverts, where but a narrow mesial line of fulvous-white passes from the
throat to the gorget; bend of the wing beneath, and axillaries, pale fulvous brown; a whitish streak from the nostril to the eye; bill horny black, basal half of the lower mandible half yellow.

"Length, 4⅓; of wing 2⅔ths; tail 1⅛ths; bill to forehead (through the feathers) ¼ an inch, to gape ⅜ths; tarse ½ an inch."

I have carefully compared the specimens from Pinang with those collected in Dukhun by Colonel Sykes, and find they exactly agree in every character.

54. Myiagra azurea.
Muscicapa azurea, Boddaert.
Muscicapa caerulea, Gmelin. (Raffles.)
Muscicapa caeruleocephala, Sykes, P. Z. S. 1832, p. 85 (the female).


55. Rhipidura javanica.
Muscicapa javanica, Sparrmann, Mus. Carls. III. t. 75; Horsfield,
Trans. Linn. Soc. XIII. p. 146.
Platyrhynchus perspicillatus, Vieillot.
The Javan Flycatcher, Lath.
Sikattan of the Javanese (Horsf.).
Moorai-Kandang of the Malays in Sumatra (Raffles).

56. Cryptolopha cinereocapilla.
Muscicapa cinereocapilla, Vieillot.
Platyrhynchus ceylonensis et Cryptolopha poiocephala, Swainson,
Muscicapa nitida, var. A. Latham.
I believe this bird has not hitherto been noticed as an inhabitant
of the Islands; a single specimen, however, was obtained at Malacca.

57. Pericrocotus speciosus.
Turdus speciosus, Latham, Ind. Orn. i. p. 363.
A single male bird from Keddah.

58. Chaptia malayensis, Lord A. Hay, J. A. S. Beng. 1846,
The Malayan Bronze Shrike.
Distinguished from Ch. ænea by its inferior size, much less deeply
forked tail, shorter wing, and by its deeper bill.

59. Dicrurus balicassius.
Corvus balicassius, Linneus.
Dicrurus balicassius, Blyth, J. A. S. Beng. XI. p. 800; XV.
Oriolus furcatus, Gmelin.
Specimens from Nepal and Dacca (the latter collected by Capt. R. C. Tytler), which I have examined, agree in every respect with those from Malacca.

60. Dicrurus malabaricus, Scopoli.
  Edolius malabaricus, Horsfield. (Raffles).
  Edolius retifer, Temminck, Texte de Pl. Col. 178.
  Edolius Rangoonensis, Gould, P. Z. S. 1836, p. 5.
  The Racquet-tailed Drongo.
Burong Saweh of the Malays in Sumatra (Raffles).
Chanwi of the Malays (Eyton).
Has a very short erect frontal crest.

61. Enneoctonus cristatus, founded on Edward's B. t. 54.
(but the species is not crested).
  Lanius cristatus, Linnaeus.
  ? L. lucionensis, Linnaeus.
  L. phoenicurus, Pallas.
  L. rutulus, var. A. Latham.
  L. melanotis, Valenc.
  L. ferrugiceps, Hodgson, Ind. Rev. i. p. 446.
  A specimen from Pinang agreeing exactly with those from India.

62. Enneoctonus superciliosus.
  This I believe to be a distinct species from the last, contrary to the opinion formed by the late Mr. Strickland and others. Several specimens were collected at Pinang.

63. Enneoctonus tigrinus.
  L. magnirostris, Lesson, in Belanger's Voyage.
  L. strigatus, Eyton, P. Z. S. 1839, p. 103.
  ? L. ferox, Drapiez.
Serara of the Malays (Eyton).

64. Tephrodornis gularis.
  Lanius gularis, Raffles, Trans. Linn. Soc. XIII. p. 304.
  L. virgatus, Temminck, Pl. Col. 256. f. 1.
Barou Barou of the Malays in Sumatra (Raffles).
Burong Tana of the Malays (Eyton).

65. Lalage orientalis.
  Turdus orientalis, Gmelin.
  Ceblepyris striga, Horsfield.
  Pycnonotus humeraloides, Lesson.
  Sylvia leucophaea, Vieillot (nec Latham).
  Saxicola orientalis, Vieillot.
Lenjettan of the Javanese (Horsf.).
Kras of the Malays (Eyton).
Lord Arthur Hay has described* a species of this genus from Malacca, under the name of Ceblepyris culminatus.


Burong Tana Rimba of the Malays (Cantor).
This form appears to belong to the subfamily Myiotherina, a group which includes the following genera, viz.:
Eupetes, Hodgsonius, Callene, Drymocataphus, Brachypteryx, Tesa, Trogloides, Pitta, and others.
Three specimens of this curious bird were obtained at Malacca.

67. Drymocataphus nigrocapitatus.

Brachypteryx nigrocapitata, Eyton, P. Z. S. 1839, p. 103.


Colour of the upper parts rufous brown, of the under bright ferruginous; throat white, flanked by a black streak; cap black, bordered by a white superciliary streak and loral feathers; ear-coverts dusky, minutely lineated with white, and posteriorly with rufous; sides of the head ashy; bill horny black above, yellow beneath; legs brownish.

Length 6½ inches; of wing, 2 5/8ths, and tail the same, its outermost feather 5/8ths shorter; bill to forehead, through the feathers, 1 1/8ths; to gape, 3/8ths; and tarse, 1/8th of an inch. Malacca.

68. Pitta cærulea.


Both sexes of this large species were obtained at Malacca.


Pitta elegans, Less. Voy. de la Bon. Ois. t. 3 (nec Temm. Pl. Col.).
Pitta affinis apud Raffles.

Sintar of the Malays in Sumatra (Raffles).

Distinguished from P. cyanura by its smaller size, and by the yellow superciliary streak extending round the black of the crown, and brightening to fiery-red on the nape; the white on the wings is broader, and the male has the breast and abdomen of a beautiful smalt-blue, crossed transversely on the sides of the former with a number of fiery-red narrow bars, and more sparingly so on the centre. In the female the breast and abdomen is marked throughout with numerous narrow bluish-black bars, nearly as in P. cyanura, and tinged with red between the bars on the sides.

Three specimens, two males and a female, of this beautiful species, were obtained at Malacca.


- *Pitta rhodogaster*, Hodgson (the young).
- *Pitta Schlegeli*, Bonap.
- *Pitta malaccensis* apud Schlegel.

Distinguished by its rufous-brown crown; throat, sides of the head and neck all round being black; upper parts and wings darkish green, paler below; the lesser wing-coverts and rump bright glossy azure; middle of belly, vent and under tail-coverts, crimson.

This species is also found in Nepal and Assam.


Common in the countries eastward of the Bay of Bengal, from Arracan to Malacca. This would appear to be common in the neighbourhood of Pinang, at which place Dr. Cantor obtained several examples.


- *Mortua Plando* of the Malays (Eyton).
- *Allo Allo*, ditto (Cantor).

A number of specimens of this fine species was obtained at Malacca.


- *Geocichla albogularis*, Blyth (? the female).

Resembles *G. citrina*, but has the ferruginous colour of the head and under parts, and the ash colour of its upper parts, much more intense; no white upon the wings; and the lower tail-coverts only (not the vent) are white. The female is smaller and has the throat white, and some white at the sides of the vent; the wings, rump and tail, only, are deep ashy, the back and scapularies being oliv-green, much as in the female of *G. citrina*.


- *Turdus javanicus* apud Blyth, Catalogue.

- *Striée* of the Javanese (Drapiez).

- *Kwaran* of the Malays (Eyton).

- *Myai-boo-nghet* of the Arracanese (Phayre).

"Upper parts greenish olive-brown, with a dull white supercilium;
chin, and generally the median portion of the throat, with the belly and lower tail-coverts white; breast and flanks brownish-fulvous, brighter in old males; the throat and fore-neck streaked laterally with olivaceous, which in some specimens crosses the breast above the fulvous hue, and is more or less ashy; others again, evidently the old males, have the entire crown and neck all round, of a dusky ash colour, mingled with white on the middle of the throat. Bill dusky above, the basal two-thirds of the lower mandible yellow; legs pale brown."

Length, \(8\frac{1}{2}\) to 9 inches; of wing, \(4\frac{1}{2}\) to 5; tail, \(3\frac{1}{2}\).

"Inhabits the eastern coast of the Bay of Bengal," says Mr. Blyth, "from Arracan to the Straits of Malacca, becoming more numerous southward;" and M. Drapiez mentions having received it from Java, where it is a periodical visitant.

75. Turdinus macrodactylus.

Malacopteron macrodactylum, Strickl. P. Z. S. 1846, p. 103.
Tana of the Malays, Eyton.
Common at Malacca.

Napothera pyrrhomelanura, Müller.
Male—colour of the head, nape, back, chin, throat, breast, and shoulders ashy-black, deepest above; a white superciliary streak above but not beyond the eye; rump, upper tail-coverts and tail bright rufous, the latter tipped with a broad deep brown-black band; wings brown, margined with ashy; flanks and under tail-coverts rufous, belly and vent whitish, washed with rufous; bill black; legs pale yellow.

Length, \(8\frac{1}{2}\) inches; of wing, 4; tail, 4, its outermost feathers shorter; bill to front (through the feathers) \(1\frac{1}{10}\) th; to gape, \(1\frac{2}{5}\) ths; tarse, \(1\frac{1}{10}\) th.

In the young or female the plumage above is brown mixed with rufous; the forehead, round the eyes, chin, throat, breast, flanks, and under tail-coverts dusky rufous, whitish on the middle of the belly and vent; the wings brown, the coverts tipped with rufous; the bill is rather shorter and thicker, and is of a horny colour above, yellowish below at base.

77. Macronus ptilosus, Jard. et Selby, Ill. Orn. t. 150 (1835).
Burong Tanal-uban of the Malays, Blyth.

78. Malacopteron coronatum.

Colour olive-brown above, greyish towards the neck, more rufous over the rump, and the tail brownish ferruginous; forehead and vertex bright rufous, the feathers narrow-spatulate, of rigid texture, and tipped with black; occiput black; the small feathers around the eye white-centred: lower parts white, slightly tinged with brown, more especially on the sides of the breast. Bill and feet pale, the former darker above.

Length, nearly 6 inches; of wing, 2\(\frac{1}{3}\)ths; tail, 2\(\frac{2}{3}\)ths; bill to gape, \(\frac{4}{5}\)ths; and tarse, \(\frac{4}{5}\)ths of an inch.

Not uncommon at Malacca.

Malacopteron squamatum, Eyton. 
Pampang of the Malays, Eyton.

80. Timalia nigricollis, Temminck, Pl. Col. 594. f. 2.  
Brachypteryx nigrogularis, Eyton. 
Burong Tanah of the Malays, Eyton.

*Timalia pyrrhophea*, Hartlaub.  
Brachypteryx acutirostris, Eyton. 
Upper parts rufous olive-brown, darker on the head; the wings bright rufo-ferruginous; forehead, sides of head, throat, fore-neck and breast, ash-colour, becoming paler towards the belly; flanks pale fulvous-brown; bill dusky, and legs yellowish.

Length, 5 inches; of wing, 2\(\frac{1}{3}\); tail, 2; its outermost feather \(\frac{4}{5}\) of an inch shorter than the middle ones; bill to forehead, \(\frac{5}{6}\)ths; to gape, \(\frac{4}{5}\)ths; tarse, \(\frac{4}{5}\)ths of an inch.

Colour of the upper parts uniform olive-brown, somewhat darker on the crown, and having a slight ruddy tinge on the rump and tail; the whole under part pure white, a little sullied on the breast and lower tail-coverts; lores and sides of the head pale fulvescent-brown, and sides of the neck to the breast ashy; upper mandible horny-black, lower yellowish-white, except at its extreme tip; legs deeply tinged with yellowish-brown.

Length, about 6 inches; of wing, 2\(\frac{2}{3}\)ths; tail, 2, its outermost feather, \(\frac{2}{3}\)ths shorter; bill to forehead (through the feathers), \(\frac{3}{4}\)ths; to gape, \(\frac{1}{5}\)ths; tarse the same.

83. Alcippe cinerea.  
Malacopteron cinereum, Eyton, P. Z. S. 1839, p. 103.  
"Irides grey; bill blackish; feet reddish-grey, soles dirty orange. Food, seeds and insects."—Dr. Cantor’s Notes.


**Burong Nipa** of the Malays (Cantor).

Distinguished by its dark crown, pale nape, rufescent hue of the back and rump, and deep ferruginous tail-feathers, white under parts, and distinct brownish-grey band crossing the breast.

Length, 5\(\frac{1}{2}\) inches; of wing, 2\(\frac{5}{8}\)ths; tail, 2\(\frac{1}{2}\), its outermost feather, \(\frac{3}{8}\)ths shorter; bill to forehead (through the feathers), \(\frac{3}{8}\)ths; to gape, \(\frac{1}{2}\)ths; and tarse, \(\frac{1}{4}\)ths of an inch.

85. *Alcippe Cantori*, Moore, n. sp.

Upper parts olive-brown, tinged with rufous on the rump; crown ash-brown, much lighter than in *A. affinis*, nape paler; lores, above and behind the eyes, with the ear-coverts, ashy-white; throat, belly, vent and under tail-coverts white, breast mingled white and ash; wings rufescent-brown, the remiges with brighter margins; upper tail-coverts and tail deep rufo-ferruginous, darkening towards the tip; bill horny above, pale below; feet greenish.

Length, nearly 7\(\frac{1}{2}\) inches; of wing, 3; tail, 3\(\frac{1}{4}\)th; bill to frontal plumes, \(\frac{1}{2}\) an inch; to gape, \(\frac{3}{8}\)ths; and tarse, \(\frac{1}{4}\)ths of an inch.

Distinguished from *A. affinis* and *A. albogularis*, Blyth, by its larger size, and longer wings and tail. Malacca.

86. *Alcippe magnirostris*, Moore, n. sp.

Upper parts olive-brown, darkest on the crown and palest on the nape, and tinged with rufous on the rump, the feathers of the crown spatulate, and with a perceptibly darker shaft and margin; lores and streak over, but not beyond the eye, whitish; base of the lower mandible down the sides of the throat, with the tips of some of the feathers of the cheeks dark-ash; throat, belly, vent and under tail-coverts white; sides of the breast ashy-olive, the centre more ashy; wings rufescent-brown; upper tail-coverts and tail deep rufo-ferruginous; bill horny above, paler below; feet greenish.

Length, 6 inches; of wing, 3; tail, 2\(\frac{3}{4}\)ths; bill to frontal plumes, \(\frac{1}{2}\)ths; to gape, \(\frac{3}{8}\)ths; tarse, \(\frac{1}{12}\)ths of an inch.

May be known from the other described species by its larger and more robust bill, and by the dark-ash streak down the sides of the throat. Malacca.


Head and neck above black, or rather brown-black, the feathers of the mesial line white about the shaft, forming a streak of this colour along the middle of the head, besides which there are two slight lateral streaks not observable in every specimen, in addition to a superciliary line of the same; on the nape the white centres of the feathers are broader and more irregularly disposed, while on the back they become much narrower again, more or less so in different
specimens, and wholly disappear on the rump; the ground hue of the back and rump is rich fulvous brown, brightening on the latter, and tending to rufous on the upper tail-coverts; lores conspicuously pale fulvous; throat and fore-neck fulvous white, the ear-coverts margined with black; sides of the breast white, handsomely bordered with black, and with a very slight margin of the same on the medial pectoral feathers; rest of the under parts white, the flanks bordered with fulvous brown, which spreads nearly over the whole feather posteriorly; lower tail-coverts more or less tinged with the same; wing feathers dusky interiorly, the coverts having terminal longitudinal white spots; tail ruddy brown, margined with more rufous brown at base; bill black; legs yellowish.

Length, $5\frac{1}{2}$ inches; of wing, $2\frac{1}{2}$ to $2\frac{2}{3}$ths; tail, 2; bill to forehead (through the feathers), $\frac{5}{6}$ths; to gape, $\frac{3}{7}$ths; and tarse, $\frac{2}{7}$ths of an inch.

88. PYCNONOTUS JOCOSUS.

_Lanius jocosus_, Linnaeus.
_Ixos monticolus_, McClelland.
_Ixos pyrrhotis_, Hodgson.

Differs from the Indian examples only in having a much shorter sub-ocular tuft of a deeper crimson colour.

“In fine examples of Indian specimens,” remarks Mr. Blyth, “the longest of the hair-like plumes composing this ornamental tuft measures above $\frac{2}{3}$ths of an inch, passing considerably beyond the extremities of the white ear-coverts, and impending their upper half; while in equally fine specimens from Malacca, they appear as if truncated, and impend only the basal third of the white ear-coverts; in other respects the two birds are exactly similar.”

89. PYCNONOTUS GOIAVIER.

_Muscicapola goivier_, Scopoli.
_Muscicapola Psidii_, Gmel.
_Turdus analis_, Horsfield.
_Guava Flycatcher_, Latham.
_Chuchak_ of the Javanese (Horsf.).
_Biribba_ of the Malays in Sumatra (Raffles).
This species is extremely common at Pinang.

90. IXIDIA CYANIVENTRIS, Blyth, J.A.S. Beng. xi. p. 792 (1841).
Common in the vicinity of the Straits of Malacca.

91. BRACHYPODIUS MELANOCEPHALUS.

_Lanius melanocephalus_, Gmelin.
Ixos atriceps, Temm. Pl. Col. 147.
Burong Lilln of the Malays in Sumatra (Raffles).
Bok-ua of the Arracanese (Phayre).

Several specimens of this species, in various states of plumage, were obtained at Malacca, where it is not very uncommon. The adult male may be distinguished by its uniform sooty-black appearance, the wing-coverts being white with blackish tips; whereas, in the young, the whole upper plumage is of a plain brown, under parts paler, especially on the abdomen and throat; the rump of a dusky colour, with dull yellowish-brown terminal fringes, and having no trace of the white on the wing-coverts.
A specimen of what may possibly be a state of plumage, or the female of this bird, has the head, back, rump and shoulders of an olive-green colour; wings dusky, ferruginous on the outer webs, and margined with olive-green; coverts rufous olive-green; tail rufous, paler below, the feathers of the rump copious; flanks dusky, with a broad yellowish-white tip to most of the feathers; throat white, the breast brownish-grey; fore part of abdomen white tinged with yellow, the latter colour becoming brighter on the vent and under tail-coverts.
Bill and feet dark horn colour.
Length, 72 inches; of wing, 3ths; tail, 3ths; bill to gape, 3ths; and tarse, rather more than \( \frac{1}{2} \) an inch.
If new, M. Cantori, Moore.

93. Criniger Cantori, Moore, n. sp.
Crown deep ash, the feathers brown at base, becoming paler on the nape, and passing to yellowish olive-green on the back, rump and shoulders; wings rufous-brown, edged with olive-green; tail rufous-brown, edged with paler; lores, ear-coverts and sides of neck pale-ash; base of lower mandible and throat white; rest of the under parts bright yellow; bill horn-colour above, paler below; feet yellowish.
Length, 74 inches; of wing, 3\( \frac{1}{2} \); tail, 3\( \frac{1}{2} \); bill to gape, \( \frac{10}{9} \)ths; and tarse, \( \frac{1}{2} \) an inch.
The nuchal hair-like barbs are well developed in this species. Like C. gularis, Horsfield, it is not crested. Malacca.

94. Trachycomus ochrocephalus.
Trichophorus crispiceps, Blyth, J. A. S. Beng. xi. pp. 186, 204.
Trachycomus ochrocephalus, Cabanis, Cat. B. Mus. Heine, p. 109 (1851).
Chuchak-rawa of the Javanese (Horsf.).
Barou Barou of the Malays (Eyton).
"Irides dark brown, bill and feet black. Very loquacious."—Cantor.


Chtap of the Malays (Blyth).
Upper parts dull olive-green; the wings and tail brownish dusky, margined with the colour of the back; throat and breast ashy, with whitish centres to the feathers; the abdomen and lower tail-coverts dull white; bend of the wing beneath, and the axillaries pale yellow; bill and feet horn colour; feathers of the crown pointed.
Length, 8 1/2 inches; of wing, 4; tail, 3 3/4, its outermost feather 1 4 inch less; bill to gape, 1 3/4 th; and tarse, 3 4 ths of an inch.

96. Phyllornis javensis.

Chloropsis Sonneratii, Jard. et Selby, Ill. Orn. text to t. 7 (1826) et t. 100.
Phyllornis Müllerii, Temm. Texte de Pl. Col.
Turdus viridis, Horst. (jun. ♂).
Chloropsis gampsohynchus, Jard. et Selby, Ill. Orn. t. 7 (jun.).
Chuchack-iju (♂), Ijoan (♀) of the Javanese (Horsf.).
Daun or Dawoun of the Malays (Eyton).

Phyllornis malabaricus apud Blyth, J. A. S. Beng. xii. p. 957.
Burong Daun of the Malays in Sumatra (Raffles).
The adult male of this species is well figured by Temm. Pl. Col. 512. f. 1, and may be distinguished by having the lores, base of bill, chin, throat and fore-neck black; the head, neck, and surrounding the black of the throat light yellow, somewhat rufescent on the neck; a small short moustachial streak of brilliant small-blue at the base of the lower mandible; wings and tail tinged with fine blue, with a verdigris patch on the shoulder of the wing. The young, or female, has the forehead, throat, and region of the eyes green, and a fulvous tinge on the crown only, the wings having the verdigris wing-patch, and, together with the tail, tinged with blue.

98. Phyllornis mystacalis, Swainson, 2d Cent. p. 296 (1818) (young).
Phyllornis malabaricus, Temm. (nee Gmel.) Pl. Col. 512. f. 2.

Lores, base of bill, chin and throat black, with a faint tinge of yellow around them, and having a smalt-blue moustachial streak; the crown slightly tinged with fulvescent, the rest of the upper parts, with the wings and tail, wholly green, paler beneath. The young or female has the whole upper parts wholly green, the lower pale greenish-yellow, and the moustachial streak light blue.

Query.—Is the bird in Temm. Pl. Col. 484. f. 2. the true Cochin-chinensis, Gmel.?


Chito of the Javanese (Horsf.).
Burong Capas of the Malays (Eyton).

"The male of this species," according to Mr. Blyth, "has the throat and fore-neck dark green, uniform with the upper parts, and no yellow except on the orbital feathers."

"This is a bird of social habits, and resorts to the vicinity of human dwellings; indeed, it appears to have retired from the forests, and established itself in the trees and hedges which surround the villages and plantations. The structure of its wings does not enable it to take long-continued excursions, but it shows itself by short and frequent flights between the trees and branches. It is most lively in the middle of the day, when, under a burning sun, the inhabitants uniformly retire to rest; early in the morning, and towards the approach of night, it is rarely perceived; but during the silence prevailing at noon it enlivens the village with the song of Cheetoo, Cheetoo, which it repeats at short intervals during its sportive sallies between the branches. It feeds on small insects, and its economy is in some measure illustrated by the comparative length and sharpness of the bill, and by the broken and splintery state in which the claws are frequently found. The laminæ, or plates which compose them, are separated, and the sides are marked with small fissures, which appear to be occasioned by incessant use in scraping the bark off trees."—Horsfield.

Obtained at Pinang and Malacca, and those all females.

100. Iora typhia.

Motacilla typhia, Linnaeus (Edw. B. t. 79).
Ficedula bengalensis, Briss.
Chahtuck of the Bengalese (Hamilton).


Oriolus chinensis et O. cochinchinensis of India, Auctorum.
Oriolus chinensis apud Raffles.
Tiong Alou or Punting Alou of the Malays in Sumatra (Raffles).

"Iris greyish-rose; bill reddish-buff; feet greenish-grey."—Cantor.

"Rather a rare bird in India generally, but in the countries eastward of the Bay of Bengal it is generally common, as in Arracan, the Tenasserim provinces, and Malayan peninsula; also in China."—Blyth.


Oriolus castanopterus, Blyth, J. A. S. Beng. xi. p. 796 ♂.

ATTAT of the Javanese (Horsf.).
SEponge Rayate or Simpelong Rait of the Malays (Eytou).


Irena puella of the Malay countries, Auctorum. (Horsf. Zool. Res. in Java, ♂ ♀; Temm. Pl. Col. 70. 225. 476.)
Bressi of the Javanese (Horsf.).
BIANG KAPOOR of the Malays in Sumatra (Raffles).
QUAYANG or KROUING of the Malays (Eytou).

The distinction between the Indian and Malayan Irena was first pointed out by Lord Arthur Hay; to the former he gave the name of I. indica, but as the specimen described by Latham was from India, the name puella will apply to those from the Continent only; the Malayan species is consequently without a name, and the name malayanâ is proposed for it. In the I. malayana the under tail-coverts reach quite to the end of the tail; while in I. puella, Lath., they are never less than an inch and a quarter short of the tail-tip in the males, and generally an inch and a half in the females.

"In Java," remarks Dr. Horsfield, "this species inhabits woods and forests, feeding on fruits and wild grains. It is a very rare bird, and confined to a few districts, where it conceals itself on solitary hills, distant from the habitations of man, preferring rather elevated and cool situations. I met with it only in the western parts of the island; once in the province of Banyumas, and a second time on the ridges of hills situated south-west from Buitenzorg. It is also found in the interior of Sumatra and the adjacent islands."

104. Copsychus mindanensis*.

Turdus mindanensis, Gmelin.
Lanius musicus, Raffles (excl. syn.).
Gryllivora magirostra, G. rosea, et G. brevirostra, Swains.
MOORAI or MOORAI KICHOU of the Malays in Sumatra (Raffles). Common at Pinang and Malacca.

* Copsychus amanus, Horsfield, differs from this in having the whole under parts entirely black in the male, and slaty-grey in the female.
105. **Kittacincla macroura.**


*Turdus tricolor*, Vieill.

*Grillivora longicauda*, Swains.


**Shama of the Bengalese** (Hamilton).

**Larwa of the Javanese** (Horsf.).

**Murabuta of the Malays** (Eytton).

**Changchooi of the Malays in Sumatra** (Raffles).

"The *Shāmā* is reputed to be the finest of oriental songsters; besides which it has a considerable propensity to imitation, and one in my possession learned to give the crow of a cock to perfection, also the notes of the *Coël* (*Eudynamis orientalis*), the chatter of a troop of *Saat Bhyes* (*Malacocircus canorus*), &c. Many thousands of these elegant birds are kept in cages in Calcutta, and the universally absurd practice is to darken their cages by wrapping them with several folds of cloth, enough to stifle the luckless captives in this climate, though it must be confessed they sing most vigorously while thus circumstanced, but certainly not more so than mine, which were exposed to the light and air. It is a practice of the rich natives to employ servants to carry about their *Shāmās* and other birds, and the number which are thus borne about the streets of Calcutta is astonishing; the poor birds are shut out from all light and air, like Mahommedan ladies enjoying (?) their evening drive, but they nevertheless (*i.e.* the birds) sing forth most lustily and melodiously."—*Blyth.*

106. **Zanthopygia tricolor.**


"Colour of the male, deep black above, bright yellow below and on the rump; a large wing-spot, continued along two-thirds of the outer edge of the largest tertiary, also a spot before and over the eye, and the lower tail-coverts pure white; bill dusky-horn or blackish; legs brown. The female differs widely in being of a light olive-green above, tinged with grey, especially on the head; below yellowish-albescent, the feathers of the fore-neck and breast margined with the hue of the upper parts; rump, towards the tail, bright and pure light-yellow; the two great ranges of wing-coverts tipped, and the tertaries externally margined with white; loral streak and the lower tail-coverts dull-white; bill dusky above, pale below, and legs pale.

"Length, 5 inches; of wing, 2/3ths; tail, 1/4ths; bill to gape, 8/ths; and tarse, barely 5/ths of an inch."

A female only was obtained at Pinang.


"Closely allied in form and structure to *E. leucura*, Gmel.; *Musc.}
puta of India; but the whole throat, breast, and fore-part of the abdomen bright yellowish-ferruginous; two narrow whitish bands across the wing, formed by the tips of the coverts; and the white on the sides of the base of the tail much reduced (as compared with *E. leucura*), occupying only the extreme base of the outermost tail-feathers, and successively increasing in quantity upon the next four; belly and lower tail-coverts pure white; the flanks fulvous-brown; behind the eye a whitish spot; a slight olivaceous tinge on the upper-parts generally, and the tertials margined with whitish.

"Length, nearly 5 inches; of wing 2\(\frac{3}{8}\)ths; tail 1\(\frac{2}{5}\)ths; bill to gape 1\(\frac{3}{5}\)ths, and tarse the same.

"The female is probably without the rufous on the under-parts, but would be distinguished from that of *E. leucura* by the narrow whitish bands on the wing, and also by the reduced quantity of white at the base of the tail."

From Malacca.

108. Orthotomus longicauda.

*Motacilla longicauda* et *M. sutoria*, Gmelin; Pennant, Ind. Zool. i. p. 44.

*Sylvia guzuratta*, Lath.

*Orthotomus Bennetii* et *O. lingoo*, Sykes, P. Z. S. 1832, p. 90.

*Orthotomus ruficapilla*, Hutton, J. A. S. Beng. 1833, p. 504.

*Orthotomus sphenurus*, Swains. 2\(\frac{1}{2}\) Cent. p. 543 (1838).

*Orthotomus patia*, Hodgson, Gray's Zool. Misc. 1844, p. 82.


The Tailor Bird.

TUNTUNI of the Hindoos (Hamilton). PHUTKI, Jerdon.

PATIA (i.e. Leaf-bird), Nepalese (Hodgs.).

For observations on the habits of this interesting little bird, I must refer the reader to the *Catalogue of Birds in the Museum of the East India Company*, p. 316.


"Plumage black, with white lower abdomen, wing-band, rump, and two outermost tail-feathers on each side, the other tail-feathers white-tipped; a triangular frontal crest of white feathers, evidently erectile, those forming the apex being longer than the black coronal feathers they impend. The young have the frontal crest much reduced."

Bill black, legs yellow.

Length, about 7 inches; of wing 3\(\frac{1}{4}\); tail 3\(\frac{2}{5}\)ths; bill to frontal plumes \(\frac{4}{5}\)ths, to gape \(\frac{2}{5}\)ths; tarse 1 inch.

Distinguished from *E. Leschenaulti* by its smaller size, less developed white frontal crest, shorter wings and tail, and smaller feet.

110. Calobates sulphurea.

*Motacilla sulphurea*, Bechstein.

*Motacilla boarula*, Pennant (nec Linn.).


MALACOCIGHLA DRYAS, Gould.
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The Grey Wagtail.
Letti Letti of the Malays in Sumatra (Raffles).

111. Budytes viridis.
Motacilla viridis, Linn.
Budytes Beema, Sykes, P. Z. S. 1832, p. 90.
Pilkya of the Hindoos (Hamilton).
Bessit of the Javanese (Horsf.).

Alauda pratensis, apud Raffles.
The Malayan Pipit.
Lancha Lancha or Hamba Puyu of the Malays in Sumatra (Raffles).
Certainly a distinct species from the common A. rufulus, Vieill.

[To be continued.]

6. Description of a New Bird from Guatemala,
forming the type of a new genus.
By John Gould, F.R.S. etc.
(Aves, Pl. LXXV.)

Genus Malacocichla, Gould.

Gen. Char. Bill straight, shorter than the head; culmen keeled, and slightly descending from the middle to the point; tommie nearly straight; upper mandible slightly notched at the tip; nostrils placed in a deep depression on each side of the base of the bill; rictus destitute of vibrissae; wings semiconcave, moderately long and slightly rounded; first quill very short, the fourth the longest; tarsi somewhat lengthened and with slight or delicate scutellations; middle and hind toes very long; tail moderately long, somewhat concave, and soft to the touch.
This form is closely allied to Grallaria and Chameza, and would appear to unite the members of those genera to those of Turdus. It is very elegant, all the parts being admirably proportioned; and the colours harmoniously arranged.

Malacocichla Dryas. (Pl. LXXV.)
Head, cheeks and ear-coverts jet-black, the feathers of the crown somewhat lengthened; back, wings and tail dark greenish-olive; centre of the throat and under surface pale buffy-yellow, blending
into the olive of the upper surface on the flanks, the feathers of the breast and upper part of the abdomen tipped with olive; bill and eyelash orange-red; legs and feet orange-yellow.

Total length 7 inches; bill $\frac{7}{9}$; wing $3\frac{2}{4}$; tail $2\frac{7}{8}$; tarsi $1\frac{1}{6}$; middle toe and nail $1\frac{1}{16}$; hind-toe and nail $\frac{3}{4}$.

Hab. Guatemala.

Remark.—In size this bird is rather smaller than the European Redwing, Turdus Iliacus.

December 12, 1854.

R. C. Griffith, Esq. in the Chair.

The following papers were read:

1. Descriptions of Fifty-seven New Species of Helicea, from Mr. Cuming's Collection.
   By Dr. L. Pfeiffer.

1. Helix amazonica, Pfr. H. testa umbilicata, depressa, solida, superne confertim undulato-plicata et subgranulata, fulva, ad suturam et carinam rufo-maculata; spira vix elevata, obtusa; anfract. $5\frac{1}{2}$ parum convexis, regulariter accrescentibus, ultimo non descendentem, peripheria subacute carinata, basi inflato, confertim radiato-striato, flavescenti- albido, rufo-multifasciato; umbilico angusto, pervio; apertura parum obliqua, angulato-lunari, intus margaritacea; perist. breviter reflexo, margine supero fere horizontaliter patente, basali arcuato, columnellari in laminam triangularem, fornicatum expanso.
   Diam. maj. 51, min. 43, alt. 21 mill.
   Hab. Banks of the Amazon.

2. Helix auris, Pfr. H. testa sinistrorsa, umbilicata, depressa, ambitu subauriformi, tenui, oblique confertim striatula, superne vix nitidula, isabellina; spira vix elevata, obtusa; sutura linear, minutissime crenulata; anfract. 4$\frac{1}{2}$ vix convexis, rapide accrescentibus, ultimo non descendentem, peripheria subangulato, basi tumido, nitidiore; apertura diagonal, subtetragono-rotundata; perist. simplex, marginibus subconniventibus, externo recto, basali subincrassato, albo, juxta umbilicum angustum, pervium triangulatim reflexo.
   Diam. maj. 47, min. 37, alt. 22 mill.
   Hab. Koondah Mountains near Calicut (Pirrie).

3. Helix inaequalis, Pfr. H. testa late umbilicata, depressa, solida, oblique rugoso-plicatula, lineis spiralibus impresso-punctatis, distantibus sculpta, nitidula, fusco-lutea, castaneo irregulariter strigata, interdum fascia 1 latiuscula nigra infra
medium ornata; spira vix elevata; anfract. 5 parum convexis, sensim accrescentibus, ultimo non descendentem, peripheria subangulato, basi subplanato, nitidiore, radiato-striato; umbilico conico, \( \frac{3}{4} \) diametri subaequante; apertura parum obliqua, lunato-rotundata, intus albo-callosa: perist. recto, marginibus subconvergentibus; dextro simplice, leviter antrorsum arcuato, basali et colmillari subincrassatis.

Diam. maj. 22, min. 19\( \frac{1}{2} \), alt. 9 mill.

**Hab.** Isle of Pines, Australian Seas (Macgillivray).

4. *Helix costulifera*, Pfr. *H. testa umbilicata, depressa, tenui, subconferte arcuato-costata, diaphana, pallide cornea, ad suturam castaneo-maculata, caeterum oblique rufo-strigata; spira vix elevata; sutura profunda; anfract. 5 parum convexis, sensim accrescentibus, ultimo non descendentem, depresso, peripheria obsolete subangulato, basi planiscula; umbilico conico, \( \frac{1}{4} \) diametri subaequante; apertura diagonalis, subquadra-rotundata; perist. simplice, recto, marginibus subconvergentibus, dextro antrorsum arcuato, colmillari brevi, subverticali.

Diam. maj. 6\( \frac{1}{2} \), min. 5, alt. 2 mill.

**Hab.** Isle of Pines, Australian Seas (Macgillivray).

5. *Helix Pinicola*, Pfr. *H. testa umbilicata, depressa, tenui, confertim arcuato-plicata, haud nitente, corneo-lutea, ad suturam castaneo-maculata, caeterum strigis angulosis picta; spira plana; anfract. 5 convexis, sensim accrescentibus, ultimo non descendentem, terete; umbilico \( \frac{3}{4} \) diametri aequante, cyathiformi; apertura parum obliqua, lunari; perist. simplice, recto, marginibus vix convergentibus, dextro arcuatim introrsum dilatatato, colmillari vix patente.

Diam. maj. 7\( \frac{1}{2} \), min. 6\( \frac{1}{2} \), alt. 3 mill.

**Hab.** Isle of Pines, Australian Seas (Macgillivray).

6. *Helix subrudis*, Pfr. *H. testa umbilicata, depressa, solidula, oblique subruditer striata striisque spiralibus confertis, sub lente decussata, opaca, albida, fascia lata violaceo-fusca ad suturam, nonnullisque obsoletis cincta; spira depressae conoidea, apice obtusula, cornea; anfract. 5 convexiusculus, sensim accrescentibus, ultimo terete, non descendentem; umbilico mediocris, ferre \( \frac{1}{2} \) diametri aequante; apertura parum obliqua, lunato-rotundata; perist. simplice, recto, marginibus convergentibus, colmillari breviter patente.

Diam. maj. 17\( \frac{1}{2} \), min. 15, alt. 9 mill.

**Hab.** —— ?

7. *Helix lata*, Pfr. *H. testa angustissime sed pervie umbilicata, subturbinata, solidiuscula, striolis irregularibus obliquis subgranulata, parum nitente, lutescenti-alabastrina; spira conoidea, apice acutiuscula; sutura marginata; anfract. 6 vix convexiusculus, lente accrescentibus, ultimo non descendentem, subacue rugulos-carinato, basi inflato; apertura parum obliqua,
angulato-lunari, intus margaritacea; perist. recto, obtuso, marginibus remotis, columellari superne in laminam brevem triangularem dilatato.

Diam. maj. 35, min. 29, alt. 18 mill.

Hab. — ?

8. Helix Bogotensis, Pfr. H. testa umbilicata, sublentiformi, solida, acute carinata, striata, sub lente minutissime granulata, nigro-castanea; spira brevissima, obtusa; sutura lineari, sub-marginata; anfract. 4½ planulatis, ultimo antice tumido, fere rectangle deflexo, supra et infra carinam profunde scrobiculato, basi circa umbilicum angustam, pereium convexo; apertura perobliqua, rhombo-aureiformi; perist. continuo, albo, crasso, undique soluto et reflexo, margine supero arcuato, intus tuberculo triangulari munito, parietali flexuoso, laminam validam linguaæformem emittente, basali medio subangulatim descendente, latere sinistro tuberculis 2 inæqualibus, dextro plicis 2 inæqualibus, in tuberculo elevato positis munito.

Diam. maj. 37, min. 33, alt. 14 mill.

Hab. Santa Fé de Bogota.

9. Helix Ellipsostoma, Pfr. H. testa anguste et semiobtecte umbilicata, conoidea, tenui, striata et sub lente minutissime granulata, fusca; spira conoidea, subacuminata; sutura linearis, sub-marginata; anfract. 5 planiusculis, sensim accrescentibus, ultimo acute carinato, antice subito deflexo, basi parum convexo, antice triscrobiculato; apertura fere horizontalis, elliptico-rhombea, dente lamellæformi, libero, longe intrante coarctata; perist. continuo, albo, margine parietali recto, supero breviter expanso, basali reflexo, medio subangulatim descendente, parte sinistra tuberculo unico, dextra plicis 2 divergentibus, basi junctis munito.

Diam. maj. 20, min. 17½, alt. 9 mill.

Hab. Santa Fé de Bogota.

10. Helix Annatonensis, Pfr. H. testa umbilicata, depressa, tenuisscula, sublaevigata, nitida, pellucida, corneo-cerea; spira vix elevata; sutura impressa; anfract. 5 convexusculis, regulariter accrescentibus, ultimo non descendentem, peripheria rotundata, basi parum convexo; umbilico conico, ½ diametri paulo superante; apertura obliqua, lunari; perist. simplex, recto, margine dextro antrorsum subdilatato, columellari leviter arcuato.

Diam. maj. 10½, min. 9, alt. 4 mill.

Hab. Isle of Annaton or Aniteum, New Hebrides (Macgillivray).

11. Helix Cimex, Pfr. H. testa umbilicata, discoidea, tenui, subtiliter capilaceo-striata, haud nitente, pallide cornea; spira planiuscula; anfract. 5 convexusculis, lente accrescentibus, ultimo non descendentem, terete; umbilico perspectivo, ½
diametri subæquante; apertura parum obliqua, parva, rotundato-lunari; perist. simplice, recto, marginibus convergentibus.
Diam. maj. 3, min. $2\frac{1}{2}$, alt. $1\frac{1}{4}$ mill.
_Hab._ Lord Howe's Island. (Macgillivray.)

12. **Helix singularis**, Pfr. *H. testa sinistrorsa, perforata, trochiformi, solidiuscula, peroblique striata, epidermide fulvo-fusca induta; spira subconcauo-conica, apice acutiuscula; anfract. 6½ convexiusculus, ultimo subacute carinato, antice vix descendentem, basi convexior; apertura obliqua, transverse truncato-ovali; perist. albo, marginibus vix convergentibus, externo expanso, columellari superne in laminam triangularem reflexo.
Diam. maj. 9, min. 7, alt. 7 mill.
_Hab._ Isle of Aniteitum, New Hebrides. (Macgillivray.)

13. **Helix vallicola**, Pfr. *H. testa perforata, depressa, laevigata, nitida, pellucida, fusco-cornea; spira vix elevata; sutura impressa, submarginata; anfract. 5 vix convexiusculus, sensim accrescentibus, ad suturam striatulis, ultimo non descendentem, peripheria rotundato, basi albido; apertura subverticali, lunari; perist. simplice, recto, marginibus vix convergentibus, columellari declivi, superne reflexo.
Diam. maj. 12, min. 10½, alt. 5 mill.
_Hab._ Koondah Mountains, India. (Pirrie.)

14. **Helix consul**, Pfr. *H. testa subclause perforata, depressa, tenui, levissime striatula et sub lente striis conferitis spiralibus sculpta, lucida, fusco-cornea; spira brevissime conoideo-elevata; sutura marginata; anfract. 6 convexiusculus, regulariter accrescentibus, ultimo non descendentem, rotundato, basi medio subexcavato; apertura subverticali, rotundato-lunari; perist. simplice, recto, marginibus vix convergentibus, dextro perarctuato, columellari declivi, superne anguste reflexo.
Diam. maj. 20½, min. 18, alt. 10 mill.
_Hab._ Sarawak, Borneo.

15. **Helix Aglaia**, Pfr. *H. testa subclause perforata, depressa, tenui, laevigata, nitidissima, pellucida, fulvo-succinea; spira vix elevata, vertice subtili; sutura linea rufescence marginata; anfract. 6 convexiusculus, lente accrescentibus, ad suturam planitulis, ultimo non descendentem, rotundato, basi medio excavato; apertura parum obliqua, regulariter lunari; perist. simplice, recto, marginibus distantibus, columellari superne subcallosio, anguste reflexo.
Diam. maj. 13, min. 11, alt. 6 mill.
_Hab._ Sarawak, Borneo.

16. **Helix tomentosa**, Pfr. *H. testa umbilicata, globoso-depressa, tenui, superficie quasi tomentosa, cinnamomea; spira brevissime conoidea, vertice obtuso; anfract. 5 convexis, cele-

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riter accrescentibus, ultimo non descendente, basi inflato, circa umbilicum angustum, perium compresso; apertura vix obliqua, irregulariter rotundato-lunari, intus pallidiore, nitida; perist. carneo-labiato, expanso et reflexiusculo, marginibus convergentibus, dextra regulariter arcuato, subangulatim cum columellari fornicato-reflexo juncto.

Diam. maj. 16, min. 13½, alt. 9 mill.

Hab. Sarawak, Borneo.

17. Helix infans, Pfr. H. testa subperforata, conoideo-depressa, solidula, laevigata, nitida, albida; spira brevissime conoidea; sutura impressa, distincte marginata; anfract. 5 convexusculis, sensim accrescentibus, ultimo non descendente, convexiore; apertura obliqua, irregulariter lunari; perist. simplice, recto, rufulo-limbato, marginibus convergentibus, dextro regulariter arcuato, subangulatim cum columellari fornicato-reflexo juncto.

Diam. maj. 5½, min. 5, alt. 3 mill.

Hab. Sarawak, Borneo.

18. Bulimus speciosus, Pfr. B. testa anguste perforata, ovata, solidula, longitudinaliter plicata, minutissime granulata et oblique malleata, olivaceo-fusca, maculis rufis adpersa; spira brevi, conica, obtusula; sutura subcrenulata, pallida; anfract. 4 modice convexis, ultimo ½ longituninis fere formante, basi rotundato; columella leviter plicata, albida; apertura parum obliqua, acuminato-ovali, intus carnea, nitidissima; perist. fusco-aurantiaco, undique subincrassato, expanso et revoluto, marginibus callo pellucido junctis, columellari dilatato.

Long. 38, diam. 30 mill.

Hab. Sierra Nevada de S. Marta. (Schlim.)

19. Bulimus jucundus, Pfr. B. testa subrimata, ovato-conica, tenui, plicatula et undique granulata, diaphana, parum nitente, fulva, saturatissimus strigata, ad suturam maculis castaneis et luteis alternantis picta; spira conica, obtusula; anfract. 4½ convexusculis, ultimo descendente, spira vix superante, basi rotundato; columella albida, compressa torto-plicata; apertura parum obliqua, ovali, intus carnea, nitida; perist. breviter expanso, obtuso, pallide roseo, marginibus columellari superne subdilatato, appresso.

Long. 31, diam. 15 mill.

Hab. Antioquia, New Granada. (Schlim.)

20. Bulimus taquinensis, Pfr. B. testa subperforata, ovato-oblonga, solidula, longitudinaliter minute striata et malleata, sub epidermide fusco-olivacea strigis obliquis indistinctis rufis picta; spira convexo-conica, obtusula; anfract. 4 modice convexis, ultimo spira paulo longiore, basi rotundato; columella leviter plicata; apertura subverticali, acuminato-ovali, intus
margaritacea; perist. subincrassato, carneo, margine dextro revoluto, columellari subdilatato, horizontaliter patente et reflexo. Long. 40, diam. 18 mill.

Hab. Taquina, Sierra Nevada de S. Marta; 9000' elevation. (Schlim.)

21. **Bulimus otostomus**, Pfr. *B. testa perforata, oblongo-subfusiformi, solidula, longitudinaliter plicato-striata, alba, strigis latis, nigricanti-castaneis, interruptis et confluentibus variigata; spira conica, obtusa; sutura subangulata; anfract. 5 convexusculus, ultimo spira breviore, basi attenuato, subcompresso; columella valide et prominenter torto-plicata, atroviolacea; apertura subverticali, aniformi, basi subangulata, effusa; perist. albo, reflexo, margine dextro superne perarcuato, recedente, columellari superne dilatato, subappresso.

Long. 31, diam. 13 mill.

Hab. Venezuela.

22. **Bulimus intermedius**, Pfr. *B. testa perforata, elongato-conica, solidula, oblique striatula et puncturata, nitida, alba; spira conica, obtusa; sutura levi, simplice; anfract. 6 planiusculus, ultimo ½ longitudinalis subauquante, infr medio subangulato, basi turgido; columella leviter plicata, subrecedente; apertura obliqua, truncato-ovali; perist. sublate expanso, reflexiusculo, marginibus callo tenui junctis, columellari plano, dilatato, triangulari.

Long. 34, diam. 16 mill.

Hab. Ceylon. (Thwaites.)

23. **Bulimus lusorius**, Pfr. *B. testa vix perforata, subfusiformi-oblonga, tenui, levigata, carneo-albida, strigis sparsis undulatis castaneis ornata; spira convexo-conica, acutisculus; sutura indistincte marginata; anfract. 5½ convexiusculus, ultimo spira paulo breviore, basi attenuato; columella subcompressa, torto-plicata, recedente; apertura parum obliqua, ovali, strigis intus intensioribus; perist. tenui, margine dextro superne curvato, tum late expanso, columellari reflexiusculo.

Long. 25, diam. 10 mill.

Hab. Banks of Amazon, Brazils.

24. **Bulimus Antioquiensis**, Pfr. *B. testa breviter et profunde rimata, ovato-pyramidata, solidula, minute malleata, nitidula, alba, strigis irregularibus pallide violaceis, rectis vel angulosis ornata; spira elongato-conica, apice lutescente, acutisculus; anfract. 6 convexiusculus, ultimo spiram vix superante, rotundato; columella superne subplicata, rubella; apertura vix obliqua, oblique truncato-oblonga; perist. tenui, pallide vitellino, undique subaequaliter late expanso.

Long. 30, diam. 13 mill.

Hab. Province of Antioquia, New Granada. (Schlim.)

25. **Bulimus adumbratus**, Pfr. *B. testa subobtecte perforata,
ovato-conica, solidula, laevigata, albido et roseo adumbrata, strigis distantibus roseo-fuscis et punctis sparsiis pellucidis signata; spira conica, apice acuta, nigra; anfract. 6 vix convexitusculis, ultimo spira paulo breviore, basi rotundato, fascia castanea notato; columna subverticalis; apertura obliqua, oblongo-ovali; perist. simplice, recto, margine columellari papyraceo, fornicatim reflexo, subadnato.

Long. 20, diam. 9½ mill.

Hab. Ceylon.

26. Bulimus proletarius, Pfr. B. testa compresse umbilicata, oblongo-turrita, solidula, sub lente minutissime granulata, nitidula, corneo-fusca; spira elongata, obtusula; anfract. 7 convexis, ultimo ⅓ longitudinis vix superante, antice subascendente, basi subcompresso; apertura vix obliqua, oblonga; perist. albo-labiato, marginibus approximatis, dextro expanso, superne perarcatu, columellari dilatato, patente.

Long. 15, diam. 6 mill.

Hab. Ceylon.

27. Bulimus lanceolatus, Pfr. B. testa imperforata, turrita, solidula, longitudinaliter subarcuato-striata, diaphana, albido-straminea; spira elongata, acutiuscula; sutura levi, crenulata; anfract. 13 subplanis, ultimo ⅓ longitudinis formante, basi vix attenuato; columna superne subtorta, tum stricta; apertura parum obliqua, acuminato-ovali, basi subangulata; perist. simplice, recto, margine columellari brevis-sime reflexo.

Long. 52, diam. 14 mill.

Hab. Natal. (Plant.)

28. Bulimus hyaloideus, Pfr. B. testa anguste umbilicata, ovato-conica, tenui, irregulariter striatula, subhyalina; spira regulariter conica, apice acutiuscula; anfract. 5 convexis, ultimo spira paulo breviore, basi rotundato; apertura parum obliqua, rotundato-ovali; perist. simplice, acuto, marginibus conniventibus, dextro recto, perarcatu, columellari arcuato, subpatente.

Long. 12½, diam. 7½ mill.

Hab. Mendez, Andes of New Granada.

29. Bulimus Pringi, Pfr. B. testa anguste umbilicata, conica, solida, irregulariter striata et punctata, cretacea, fuscus basali plerunque ornata, vel corneo-marmorata; spira regulariter conica, acutiuscula; anfract. 7 convexis, ultimo ⅓ longitudinis non attingente, rotundato, peripheria obsolete angulato; apertura obliqua, fere circulari; perist. simplice, marginibus conniventibus, dextro perarcatu, columellari substricto, superne dilatato, patente.

Long. 8, diam. 5 mill.

Hab. Peniche. (Pring.)
30. Bulimus loricatus, Pfr. B. testa sinistrorsa, subimperfecta, ovato-pyramidata, solida, confertim striata, albidofulva, strigis et maculis fuscis marmorata; spira convexoconica, acutiuscula; anfract. 7–8 convexusculis, ultimo \( \frac{2}{3} \) longitudinis subaequante, leviter malleato; columella subverticale, superne subplacata; aperture obliqua, sinuato-semiovalis, intus nitida, pallide rosea; perist. incrassato et breviter expanso, albo, marginibus callo crasso, albo junctis, externo sinusato, columellae dilatato, reflexo, subadnato.

Long. 62, diam. 26 mill.

Hab. —?

31. Bulimus Cæsar, Pfr. B. testa imperfecta, globoso-conica, tenui, subflavigata, sub epidermide decidua, fulva alba; spira conoidea, apice obtusula; anfract. 5½ modice convexis, ultimo spiram subaequante; columella fere verticale, plana, alba, truncato-dentata; apertura subdiagonali, lunato-rotundata, intus alba; perist. albo, breviter expanso, margine dextro superne antorvum dilatato.

Long. 46, diam. 33 mill.

Hab. Philippine Islands.

32. Partula nitens, Pfr. P. testa subperfecta, conico-ovata, ventrosa, tenuissula, longitudinaliter subtilissime striata, nitente, diaphana, fulvo-fusca, superne obsolete, basi late luteofasciata; spira conica, acutiuscula; sutura levi, albida; anfract. 5 vix convexusculis, ultimo spiram subaequante, basi rotundato; apertura vix obliqua, acuminato-ovali; perist. albo, margine dextro superne subrepano, mediocriter expanso, columellae dilatato, subfornicatim patente.

Long. 17, diam. 10 mill.

Hab. —?

33. Spiraxis bistorta, Pfr. Sp. testa imperfecta, turrita, tenuissula, leviter arcurato-striata, nitida, pellucida, olivacea-cornea; spira elongata, subrectilineari, obtusa; sutura levi, obsolete crenulata; anfract. 11 planiusculis, ultimo \( \frac{1}{2} \) longitudinis formante, basi attenuato, pallido; columella plicis 2 filiformibus, tortis munita; apertura obliqua, ovali-oblonga; perist. simplice, recto.

Long. 38, diam. 8 mill.

Hab. —?

34. Achatina vestita, Pfr. A. testa subfusiformi-turrita, tenui, longitudinaliter confertim plicato-striata, alba, epidermide fulvida, squamosa vestita; spira turrita, superne nuda, obtusa; sutura levi, dense crenulata; anfract. 8 planiusculis, ultimo spira paulo brevior, basi subattenuato; columella arcuata, subtorta, transverse truncata; apertura parum obliqua,
acuminato-ovali, intus albida; perist. simplice, margine dextro
leviter arcuato.
Long. 75, diam. 31 mill.
*Hab. Natal (Plant)*.

35. *Achatina Natalensis*, Pfr. *A. testa ovato-conica, solidula, albida, epidermide stramiae induta; spira regulariter conica, obtusa; anfr. 7½ convexiusculis, summis minutissime, sequentibus distinctius undulato-granulatis, ultimo spiram subæquante, striato, prope suturam striis paucis spiralibus decusato; columella arcuata, subtorta, infleta, anguste truncata; apertura vir obliqua, acuminato-ovali; perist. simplice, tenui.
Long. 62, diam. 28 mill.
*Hab. Natal (Plant)*.

36. *Achatina Aurora*, Pfr. *A. testa oblongo-ovata, solida, sublævigata, fulvida, strigis sparsiis, saturate castaneis variegata; spira conica, obtusa; sutura marginata; anfract. 6 convexiusculis, ultimo spiram subæquante; columella perarcuata, purpurea, basi late truncata; apertura parum obliqua, sinuato-ovali, intus lilaco-rosea, nitida; perist. simplice, fusco-limbato, marginibus callo roseo intrante junctis.
Long. 59, diam. 28 mill.
*Hab. Natal*.

37. *Achatina lævigata*, Pfr. *A. testa turrito-oblunga, solidula, lævigata, nitida, lutescenti-cerea; spira elongata, apice obtusa; anfract. 6 vix convexiusculis, sensim accrescentibus, ultimo ¼ longitudinis subæquante, basi rotundato, antice striolato; columella callosa, subtorta, oblique truncata; apertura obliqua, acuminato-ovali, intus margaritacea; perist. simplice, acuto.
Long. 17, diam. 6 mill.
*Hab. —?*

38. *Achatina capillacea*, Pfr. *A. testa turrita, tenui, sub lente capillaceo-striata, nitida, pellucida, virenti-cornea; spira elongata, apice obtusa; anfract. 7½ convexis, ultimo ¼ longitudinis vix aequante, peripheria obsolete angulato; apertura vix obliqua, sinuato-ovali; columella arcuata, oblique truncata; perist. simplice.
Long. 9, diam. 4 mill.
*Hab. Ceylon (Thwaites)*.

39. *Achatina Chinensis*, Pfr. *A. testa oblongo-turrita, tenui, sub lente capillaceo-striata, nitida, pellucida, cereo-hyalina; spira elongata, apice obtusa; anfract. 6 modice convexis, ultimo ¼ longitudinis æquante, basi subattenuato; apertura subverticali, oblonga; columella callosa, subtorta, basi fere verticaliter truncata; perist. simplice.
Long. 7, diam. 2½ mill.
*Hab. Shang Hai, China (Fortune).*
40. Achatina Albersi (Glandina), Pfr. A. testa ovato-oblonga, tenui, longitudinaliter confertim striata, pellucida, pallide carnea; spira mediocri, conica, obtusa; sutura subsimplice; anfract. 5$\frac{1}{2}$–6 convexiusculis, ad suturam distinctius striatis, ultimo spira paulo longiore, basi attenuato; columella substricta descendente, abrupte truncata; apertura subverticali, sinuato-semiovali; perist. simplice, acuto, margine dextra leviter arcuato.

Long. 30, diam. 12 mill. 

Hab. Gulf of California.

41. Pupa Pirriei, Pfr. P. testa flexuose rimata, subcylindrica, solidula, nitidula, diaphana, albido-cerea; spira elongata, sursum vix attenuata, apice obtusa; anfract. 7$\frac{1}{2}$ lente accrescentibus, vix convexiusculis, hinc inde varicosis, superioribus laxigatis, 2 ultimis capillacea-striatis, ultimo $\frac{1}{2}$ longitudinis subaequante, basi gibboso-compresso et leviter scrobiculato; apertura verticali, truncato-oblonga, plicis 2 columnellaribus profundis tertiaque bicruri magna, longe intrante, margines peristomatis junctae coarctata; perist. albo, expanso, intus calloso, margine dextra intus subtuberculifero.

Long. 10, diam. 3 mill. 

Hab. Koondah Mountains, near Calicut (Pirrie).

42. Pupa Albersi, Pfr. P. testa flexuose rimata, subperforata, oblonga, solidula, suboblique confertim costulata, opaca, alba; spira sursum dilatata, in conum brevem desinentem; sutura crenulata; anfract. 9 planiusculis, ultimo non ascendente, $\frac{1}{2}$ longitudinis subaequante, basi subattenuato, bicornicolato; apertura verticali, plicis 5 coarctata; prima linguiformi juxta insertionem marginis dextris, secunda compressa, prominente umbilicali transverse imposita, tertia dentiformi ad basin, quarta majore et quinta supra illam in margine dextro; perist. albo, sinuoso, undique expanso-reflexusculo.

Long. 15, diam. 7 mill. 

Hab. Port Natal (Stanger).

43. Pupa indica, Pfr. P. testa breviter rimata, cylindraceo-ovata, tenui, levissime striatula, oleoso-micante, fulvo-carnea; spira apice conoideo-rotundata; anfract. 5, superis 3 convexis, penultimo planiore, ultimo $\frac{1}{2}$ longitudinis formante, basi compresso, antice bicornicolato; apertura vix obliqua, oblonga, dentibus 4 coarctata: 1 pliciforme parietali, 1 columnarii, 2 profundis, brevibus palatalibus; perist. albido, breviter expanso.

Long. 2, diam. 1 mill. 

Hab. Barrakpore, India.

44. Tornatellina Küsteri, Pfr. T. testa subperforata, ovato-turrita, solidula, levissime striatula, subopaca, pallida virente; spira regulariter elongata-conica, apice obtusa; sutura linearis, marginata; anfract. 6 subplanis, ultimo $\frac{3}{4}$ longitudinis paulo superante, basi rotundato; apertura obliqua, semiovali; lamella...
parietali compressa, obliqua, longe intrante; columella acute dentata; perist. simplice, acuto, margine columellari reflexo, patente.
Long. 8 diam. 4 mill.

Hab. — ?

45. Clausilia borneensis, Pfr. Cl. testa subrimata, turrita, solidula, oblique capillacea-striata, sericea, fusco-cornea; spira regulariter attenuata, apice acutiuscula; sutura profunda; anfract. 11½ convexis, ultimo angustiore, basi rotundato, leviter sulcata; apertura pyriformis, intus fulva; lamellis mediocribus, convergentibus, infera arcuatim ascendente; lunella imperfecta, et piculis nonnullis brevibus composita; plica palatali 1 supera, subcolumellari inconspicua; perist. continuo, soluto, albo, undique expanso et reflexiuiscolo.
Long. 22, diam. 4½ mill.
Hab. Sarawak, Borneo.

46. Clausilia eburnea, Pfr. Cl. testa profunde rimata, fusiformi-turrita, solidula, levigata, vix nitidula, candida; spira gracili, apice cornea, acutiuscula; anfract. 11½ planiusculis, ultimo autice tumido, juxta rimam gibbosocristato; apertura subobliqua, rotundato-ovali, intus fulva; lamellis subequalibus, infera oblique ascendente, simplice; lunella et plica subcolumellari inconspicua; plica palatali 1 supera; perist. carneo, continuo, libero, undique breviter reflexo.
Long. 18, diam. 4 mill.
Hab. White Mountains, Crete (Spratt).

47. Clausilia nivea, Pfr. Cl. testa profunde rimata, ventroso-fusiformi, solida, levigata, alba; spira apice attenuata, cornea, obtusula; anfract. 11 convexusculus, ultimo juxta suturam sub- 

sulcato, antice costulato-striato, basi tumido, juxta rimam arcuato-cristato; apertura vix obliqua, pyriformi-oblonga, intus fulvida; lamella supera compressa, altera callosa, obliqua, dentiformi; lunella et plica subcolumellari inconspicua; plica palatali 1 supera; perist. continuo, breviter soluto, expanso, margine externo subsinuato, intus subdентato.
Long. 15, diam. 5 mill.
Hab. Euboea (Spratt).

48. Vitrina heliciformis, Pfr. V. testa subperforata, depressoglobosa, subheliciformi, tenuissima, membranacea, radiato-rugata et striis spiralibus minutissimis sub lente sculpta, pellucida, viranti-cornea; spira subconoidea, superne erosa, alba; anfract. 5 vix convexiusculus, sensim accrescentibus, ultimo peripheria subangu- 
lato, basi inflato; apertura fere diagonali, rotundato-lunari; perist. simplice, marginibus dextro et basali subinflexis, columellari fere verticali, superne subreflexo.
Diam. maj. 17, min. 14, alt. 10.
Hab. Mount Ophir (Dr. Traill).

49. Vitrina hyalina, Pfr. V. testa depressoglobosa, tenuissima,
levigata, pellucida, virenti-hyalina; spira parum elevata, obtusula; anfract. fere 4 convexusculis, ultimo ad suturam leuven, marginatam distanter radiato-striato, basi rotundata, tatuisculo; apertura diagonalis, lunato-rotundata; perist. simplice, margine dextra antrorsum subdilatato, columellari perarcuato.

Diam. maj. 7, min. 5½, alt. 3½ mill.

*Hub* Moreton Bay, Australia (Strange).

50. **Succinea strigata**, Pfr. *S. testa ovato-acuminata, tenui, longitudinaliter regulariter striata, vix nitidula, rufo-cornea, strigis angustis pallidis ornata; spira conica, acutiuscula; anfract. 3 convexis, ultimo ½ longitudinis subaequante, inflato; columella callosa, substricta, parum recedente; apertura obliqua, subregulariter ovuli, vix angulata, praeter partem supremam incumbente; perist. simplice, marginibus callo junctis, subequaliter arcuatis.*

Long. 9½, lat. 6½, alt. 4 mill.

*Hub.* Port Clarence, Behring’s Straits.

51. **Succinea punctata**, Pfr. *S. testa depressa ovata, longitudinaliter regulariter striata, rugis nonnullis elevatioribus, nitida, pellucida, virenti- vel rufo-fusca, seriebus arcuatis punctorum luteorum ornata; spira brevi, conica; anfract. 2½, penultimo convexo, ultimo magni, dilatato; columella subcallosa, leviter arcuata, angulum obtusum formante; apertura obliqua, ovali, incumbente, superne subangulata, intus concolare, punctis pellucidentibus; perist. simplice, levissime expansiusculo.*

Long. 17, lat. 11½, alt. 7 mill.

*Hub.* Hawaii, Sandwich Islands (Newcomb).

52. **Succinea Newcombii**, Pfr. *S. testa subsemiovali, tenui, striis incrementi confertis et rugis nonnullis fortioribus, lincisque spira- libus irregularibus, minutis sculptra, parum nitida, corneo-rubella vel pallide cornea; spira minuta, papillata; anfract. 2, ultimo magni, subinflato, fere totam testam formante; columella subcallosa, regulariter arcuata; apertura parum obliqua, rotundato-ovali, non omnino incumbente, intus submargaritacea; perist. simplice, marginibus fere symmetricis.*

Long. 12, lat. 10, alt. 6 mill.

*Hub.* Molokai, Sandwich Islands (Newcomb).

53. **Succinea tomentosa**, Pfr. *S. testa oblongo-conica, tenui, pilis brevibus tomentosa, non nitente, pellucida, pallide cornea; spira conica, acuta; anfract. 3, secundo convexo, ultimo ¼ longitudinis formante, basi attenuato; columella subcallosa, levissime plicata, arcuata; apertura parum obliqua, acuminato-ovali, subincumbente; perist. simplice, expansiusculo.*

Long. 8, lat. 5, alt. 3½ mill.

*Hub.* New Zealand (Strange).

54. **Succinea ceylanica**, Pfr. *S. testa ovato-conica, solidula, distincte striata, diaphana, hyalino-albida, plerumque luto obducta;
spira conica, submucronata; anfract. 3 cum apice punctiformi, superis convexus, ultimo \( \frac{2}{3} \) longitudinis formante, basi parum attenuato; columella angulatim a ventre anfractus penultiimis recedente, substricta; apertura obliqua, angulato-ovali; perist. simplex, margine dextro regulariter arcuato.

Long. 7\( \frac{1}{2} \), lat. 4, alt. 3\( \frac{1}{2} \) mill.

**Hab. Ceylon (Layard).**

55. **Succinea Baconi**, Pfr. S. testa semiovato-acuminata, tenuissima, longitudinaliter subundulato-plicata, pellucida, nitida, pallide cornea; spira parvula, submucronata; anfract. 2 cum apicu punctiformi, penultimo convexo, ultimo \( \frac{4}{3} \) longitudinis formante, basi subattenuato; columella filosa, superne subplicata; apertura obliqua, subregulariter acuminato-ovali, non incumbente; perist. simplex, margine dextro antrorsum arcuato.

Long. 15, lat. 10, alt. 6 mill.

**Hab. Calcutta (Bacon).**

56. **Succinea vitrea**, Pfr. S. testa ovato-conica, tenuiuscula, confertim plicato-striata, nitida, albo-hyalina; spira conica, subpapillata; anfract. 3 convexus, ultimo \( \frac{2}{3} \) longitudinis formante, inflato, basi attenuato; columella filosa, arcuata; apertura parum obliqua, incumbente, ovali, superne vix angulata; perist. simplex, marginibus callo opaco junctis, subsymmetricis.

Long. 12, lat. 8, alt. 5 mill.

**Hab. Calcutta (Bacon).**

57. **Succinea daucina**, Pfr. S. testa ovato-conica, solidula, leviter striatula, oleoso-micante, lutescenti-rubella; spira conica, apice subpapillata; anfract. 3, penultimo convexo, ultimo \( \frac{4}{3} \) longitudinis formante, basi parum attenuato; columella filari, leviter arcuata; apertura obliqua, incumbente, acuminato-ovali, basi lata; perist. simplex, marginibus subsymmetricis.

Long. 9\( \frac{1}{3} \), lat. 6, alt. 4\( \frac{1}{3} \) mill.

**Hab. Calcutta (Bacon).**

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2. **Descriptions of Three New Species of Pythia.**

By Dr. L. Pfeiffer.

1. **Pythia Macgillivrayi**, Pfr. P. testa subperforata, elliptico-acuminata, tenuissula, sublaxigata, nigra; spira elongata, concaviusculo-conica, acuta; varicibus albis, castaneo submaculatis; anfract. 9 planis, ad suturam arcuato-tribatis, antice valde descendentibus, ultimo spira vix longiore, basi attenuato; apertura subverticallis, angustissima; dentibus parietalibus 2, superiore parvo, trigono, altero compresso, intrante, simplex; plica columnellaris tenui, compressa, arcuatim ascendente; perist. acuto, margine dextro superne recto, infra medium expansiusculo, intus
dentibus 2 subaequalibus munito, columellari dilatato, umbilicum fere vel omnino claudente.

Long. 24, diam. max. 11, min. 9 mill.

Hab. Isle of Anieiteum, New Hebrides (Macgillivray).

2. **Pythia ovata**, Pfr. *P. testa profunde rimata vel aperte umbilicata, compresse ovato-acuminata, solidula, striatula, pallida, livido-nebulosa et maculis castaneis marmorata; spira convexiusculo-conica, acuta; varicibus albis, macula æquilata nigro-castanea, suturam non attingente, marginalis; anfract. 10 planiscusulis, antice descendentibus, ad suturam arcuato-plicatis, ultimo spira paulo longiore, basi subcompresso; apertura verticali, intus albida; dentibus parietalibus 2, superiore triangulares, bicruri, altero valido, simplice, oblique descendente; plica columellari compressa, obliqua; perist. pallide livido, marginibus callo tenui, nitido juctis, dextra superne subsimplici, tum incrassato, reflexo, intus callo albo, inaequaliter 5-dentato munito, columellari peridilatato, patente.

Long. 31, diam. max. 26, min. 23½ mill.

Hab. —?

3. **Pythia celebensis**, Pfr. *P. testa anguste umbilicata, ovato-conica, solida, irregulariter striata, subunicolore saturate fulva; spira conica, acuta; varicibus fulvo-luteis; anfract. 10 planisculis, antice descendentibus, ad suturam validi arcuato-plicatis, ultimo spiram subæquatant, basi subcompresso; apertura subobliqua, intus livido-carnea, nitida; dentibus parietalibus 2, superiore triangulos, altero valido, compresso, subobliquo; plica columellari parvula, dentiformi, arcuatim ascendente; perist. livido-limbato, marginibus callo tenuissimo juctis, dextra superne subsimplici, tum breviter expanso et reflexiusculo, intus callo lato, carneo, inaequaliter 5-dentato munito, columellari crasso, sinuos-patente.

Long. 33, diam. max. 18, min. 15 mill.

Hab. Celebes.

3. **Descriptions of Eighteen New Species of Cyclostoma Macea, from Mr. Cuming's Collection.**

By Dr. L. Pfeiffer.

1. **Cyclostoma Chinense** (*Cyclotus?*), Pfr. *C. testa umbilicata, convexo-depressa, solida, striata, sub epidermide fuscescenti-fulva alba, obsolete fasciata; spira convexa, vix conoidea, apice subtili; anfract. 4 convexis, rapide accrescentibus, ultimo terete; umbilico conico, ½ diametri occupante; apertura subverticali, circulari, intus margaritacea; perist. continuo, breviter adnato, duplice: interno haud porrecto, externo breviter patente, obtuso.—Operc. —?

Diam. maj. 14, min. 11½, alt. 8 mill.

Hab. Hong Kong, China (Mr. Fortune).
2. **Cyclostoma montanum** (Cyclotus?), Pfr. C. testa umbilicata, turbinato-depressa, solida, superne confertim spiraliter lirata, alba, fusculo obsolete maculata et fasciata; spira turbinata, acutiuscula; anfract. 4 convexis, rapide accrescentibus, ultimo non descendentem, subus levigato, in umbilico mediocris, profundo, spiraliter striato; apertura parum obliqua, angulato-rotundata; perist. simplice, recto, breviter adnato, margine columellari reflexiusculo.—Operc. ?

Diam. maj. 12½, min. 10, alt. 8 mill.

*Hab.* Neilgherries.

3. **Cyclostoma bicornis** (Cyclotus), Pfr. C. testa umbilicata, depressa, subdiscoidea, solidula, irregulariter striata, fulvolutea, fascia peripherica castanea et superne strigis latis angulatis ornata; spira plana, vertex subtitiul, vix prominulo; anfract. fere 5 convexusculis, rapide accrescentibus, ultimo terete, subus obsolete maculato, antice soluto et tubulo antrosum curvato munito; umbilico lato, anfractus omnes latiores et convexiores demonstrante quam superne; apertura diagonalis, circularis; perist. duplice, interno brevi, recto, externo expanso et inflexo, superne in rostrum aperitum, anfractus ultimum tangentem, producto.—Operc. album, arctispirum, extus concavum.

Diam. maj. 26, min. 19, alt. 7 mill.

*Hab.* Sarawak, Borneo.

4. **Cyclostoma pterocycloides** (Cyclotus), Pfr. C. testa umbilicata, depressa, subdiscoidea, solidula, striata et striis spiralibus sub lente decussata, lutea, strigis angulatis castaneis picta; spira plana, vertex mucronatim prominulo; anfract. 5 rapide accrescentibus, parum convexis, ultimo depresso-rotundato, antice soluto et spiraculo antrosum vix ascendente munito; umbilico profundo, ⅓ diametri superante; apertura diagonalis, circularis; perist. duplice, intero vix porrecto, superne leviter emarginato, externo dilatato, rectangulo patente, limbo subinfexo, superne subangulatim producto.—Operc. ?

Diam. maj. 25, min. 19, alt. 7 mill.

*Hab.* —

5. **Cyclostoma floridum** (Cyclophorus), Pfr. C. testa anguste umbilicata, globo-turbinata, tenuiuscula, oblique levissime striata, alba, maculis sagittiformibus fuscis, interdum in strigis angulosis confluentibus, conspersa; spira turbinata, acutiuscula, apice saxe nigro-cornea; anfract. 5 convexis, ultimo rotundato, infra peripheriam fascia castanea, deorsum dissoluta, tenuiato; apertura obliqua, subcirculari; perist. simplice, breviter expanso, marginibus callo brevi junctis, sinistro subreflexo.—Operc. ?

Diam. maj. 30, min. 24, alt. 20 mill.

*Hab.* —

6. **Cyclostoma exaltatum** (Cyclophorus), Pfr. C. testa
umbilicata, globoso-turbinata, tenuiuscula, oblique striata, nigro-castanea, strigis angulosis pallidis notata; spira elevato-turbinata, acutiuscula; anfract. 5 regulariter accrescentibus, convexis, ultimo rotundato, peripheria pallide subfasciata; apertura vix obliqua, subcirculari, intus circularis-albida; perist. simplici, albo, marginibus callo brevi junctis, dextra perarcuato, breviter expanso, sinistro supra partem umbilici perangusti fornicatim patente.—Operc. —

Diam. maj. 25, min. 21, alt. 19 mill.

Hab. Hong Kong, China (Mr. Fortune).

7. Cyclostoma Sumatrense (Cyclophorus), Pfr. C. testa umbilicata, depresso-turbinata, tenuis, spiraliter tenuissime striata, nitidulu, fusca, ad suturam maculis alternis castaneis et pallidis tenui, infra peripheriam fascis 2 articulatis ornata; spira breviter turbinata, acutiuscula; anfract. 5 rapide accrescentibus, superis convexiusculis, ultimo turgido, peripheria subcarinato; umbilico mediocris, infundibuliformi; apertura obliqua, subcirculari, intus margaritacea; perist. albo, simplici, subcontinuo, breviter adnato, superne et ad dextram later expanso et revoluto, margine sinistro minus dilatato.—Operc. fulvum.

Diam. maj. 45, min. 34, alt. 23 mill.

Hab. Pedang, Island of Sumatra (Capt. A. Martin).

8. Cyclostoma tæniatum (Cyclophorus), Pfr. C. testa umbilicata, globoso-turbinata, solida, oblique confertim striata, parum nitente, albida, fasciis variis atrofuscis interruptis et maculis tenui, infra peripheriam fascis 2 articulatis ornata; spira breviter turbinata, acutiuscula; anfract. 5 convexis, ad suturam complanatis, minute maculatis, ultimo turgido, infra peripheriam carina funiformi, nonnullisque fascis latioribus cincto, basi planiore; umbilico angusto, perio; apertura obliqua, subcirculari, intus albida, fascis perlucentibus; perist. simplici, recto, continuo, breviter adnato, superne subangulato, margine dextra antrorsum dilatato, sinistro incrassato, subpatente.—Operc. rubello-fulvum.

Diam. maj. 28, min. 24, alt. 18 mill.

Hab. Sumatra.

9. Cyclostoma cereum (Cyclophorus ?), Pfr. C. testa perforata, conico-globosa, solida, leviter striata, parum nitente, virenti-cerea; spira conoidea, obtusula; anfract. 4 convexis, ultimo rotundato; apertura parum obliqua, subangulato-circulari; perist. continuo, breviter adnato, margine dextro recto, columnari subincrassato.—Operc. —

Diam. maj. 6, min. 6, alt. 5 mill.

Hab. —

10. Cyclostoma deplanatum (Cyclophorus ?), Pfr. C. testa late umbilicata, depressa, subdiscoidea, solida, confertim striata, nitida, fusco-lutea vel castanea, fascia unica peripherica, lutea cincta; spira vix prominula, vertice subtili; sutura profunda;
anfract. 5 rotundatis, ultimo terete, antice sensim descendentem; apertura obliqua, subcirculari, intus alba; perist. continuo, incrassato, expansiusculo, subduplicato, breviter adnato, margine columnellari regulariter arcuato.—Operc. ?

Diam. maj. 27^, min. 23, alt. 8 mill.

Hab. Koondah mountains, India (Mr. Pirrie).

11. **Cyclostoma semiclausum** (Leptopoma), Pfr. C. testa perforata, globoso-turbinata, tenuissima, striis obliquis et spiralisbus minute decussata, albida, flammis latis angulosis fusco-viridibus et fascis inframedianis nonnullis saturioribus picta; spira elata, turbinata, acutiuscula; anfract. 5 convexis, rapido accrescentibus; apertura obliqua, fere circulari; perist. duplice: interno expansiusculo, incumbente, externo rectangulo patente, ad perforationem reflexo, eam fere claudente.—Operc. virentifulvum.

Diam. maj. 13, min. 10, alt. 10 mill.

Hab. Ceylon (Mr. Thwaites).

12. **Cyclostoma Sechellarum** (Leptopoma ?), Pfr. C. testa anguste umbilicata, globoso-conica, tenuissima, radiato-striata, pluricarinata, fuciscenti-albida; spira turbinate, acutiuscula; anfract. 5 convexis, rapido accrescentibus, ultimo carinis 2–3 majoribus (maxima peripherica, aliis superis) lirisque spiralisbus basi confertioribus munito; apertura vix obliqua, subcirculari; perist. simplice, breviter expanso, marginibus approximatis.—Operc. ?

Diam. maj. 12, min. 10, alt. 10 mill.

Hab. Seychelles Islands.

13. **Cyclostoma pæcilum** (Leptopoma), Pfr. C. testa perforata, turbinatea, tenuissima, oblique striata, virenti-lutea, flammis albidis et lineis spiralisbus nigrantibus ornata; spira turbinata, apice acutiuscula, nigrante; anfract. 5 convexis, sensim accrescentibus, ultimo peripheria rotundato, basi planisculo, circa perforationem punctiformem excavato; apertura parum obliqua, subcirculari; perist. simplice, recto, marginibus approximatis.—Operc. corneum.

Diam. maj. 8, min. 6½, alt. 6 mill.

Hab. Ceylon (Mr. Thwaites).

14. **Cyclostoma Kieneri** (Cyclostomus ?), Pfr. C. testa umbilicata, depressa, solida, radiatim conferte striata, superne liris sub 5 carinaformibus munita, parum nitida, rufa, albido-marmorata; spira brevi, subturbinate, apice nigra, acutiuscula; anfract. 5 convexis, celeriter accrescentibus, ultimo antice descendentem, juxta suturam subexcavato, peripheria subobtusae carinato, basi levigato; umbilico profundo, ⅓ diametri subaequante; apertura perobliqua, angulato-rotundata, intus ignea; perist. continuo,
subrecto, crasso, obtuso, superne angulatim producto, adnato.—
Operc. ——?
Diam. maj. 19½, min. 16, alt. 9 mill.
Hab. Madagascar.

15. Cyclostoma gradatum (Cyclostomus ?), Pfr. C. testa perforata, globoso-conica, solidula, radiato- striata et spiraliter linata (liris inaequalibus, juxta suturam subtilibus, tum 1–3 validis carinaeformibus, reliquis obtusis), pallide lutescente; spira turbinata, gradata, acutiuscula; anfract. 5 angulato-convexis, ultimo basi inflato; apertura parum obliqua, subangulato-circulari; perist. albo, subincrassato, continuo, breviter adnato, vix expansiculo.—Operc. ——?
Long. 7, diam. 5 mill.
Hab. Ceylon (Mr. Thwaites).

16. Cataulus duplicatus, Pfr. C. testa subperforata, fusiformi-ovata, solida, striata striisque spiralibus obsolete decussata, virescenti-fusca, pallide nebulosa; spira curvilinearia, elongata, apice acutiuscula; sutura levii, marginata; anfract. 7½ vix convexiusculis, ultimo attenuato, antice subascendente; carina basali compressa, antriorum vix dilatata; apertura circulari, basi axin vix excedente; perist. aurantiaco, duplici: interno breviter porrecto, basi profunde inciso, externo rectangule patente, basi ad canalem angustum vix protrato.
Long. 18, diam. 7 mill.
Hab. Ceylon (Mr. Thwaites).

17. Diplommatina Macgillivrayi, Pfr. D. testa sinistrorsa, breviter rimata, oblongo-ovata, tenui, diaphana, pallide cornea; spira turgida; anfract. 6 convexis, superis 2 apicem subpapillatum formantibus, sequentibus 2 distanter cordato-costulatis, penultimino latissimo, confertius costulato, ultimo antice ascendente, ½ longitudinis paulo superante, confertissime costulato, basi rotundato; apertura vix obliqua, subcirculare; perist. duplice: interno appresso, externo breviter et æqualiter expanso.
Long. 6, diam. 3 mill.
β. Violaceo-fusca, anfr. ultimo pallide unifasciato.
Hab. Lord Howe’s Island, Australian seas (Mr. Macgillivray).

18. Diplommatina capillacea, Pfr. D. testa sinistrorsa, breviter rimata, ovato-conica, tenui, capillaceo-striata, pallide cornea; spira turgida, sursum conica, apice acutiuscula; anfract. 6 convexiusculis, penultimino latissimo, ultimo antice ascendente, ½ longitudinis paulo superante, basi rotundato; apertura subverticali, circulari; perist. albo, expanso, indistincte duplicato, marginibus callo junctis.
Long. 5, diam. 2½ mill.
Hab. Lord Howe’s Island, Australian seas (Mr. Macgillivray).
By Dr. L. Pfeiffer.

These two genera are closely allied by the common character of the ovate, few-whorled, horny operculum, but they may be separated by the characters of the mouth and columella.

I. Realia.


Shell turreted, rather smooth or striated; aperture ovate; peristome continuous, double.


Liarea Egea, Gray, 1852. (New Zealand.)

2. Realia turriculata, Pfr. R. testa subperforata, gracili, turrita, solidula, striatula, parum nitente, nigrante, fascia pallida basali notata vel strigis angulosis nigro-castaneis et luteo-albis alternantibus ornata, basi nigrante; spira elongata, apice obtusa; anfract. 7-7½ modice convexis, ultimo ½ longitudinis subaquante, basi obsolete subangulato; apertura verticali, angulato-ovali; perist. continuo, duplice: interno breviter porrecto, externo anguste expanso, inflexo.

Long. 9, diam. 3½ mill.

Hab. New Zealand.

3. Realia ventricosa, Hombr. and Jacq. (Cyclostoma ventricosum, H.et J. Voy. Pole Sud, Atl. t. 12. f. 34-36 ?) R. testa subperforata, turrito-oblonga, tenuiscula, sub lente confertissime striata, vix nitidula, fusca vel cornea; spira elongata, subventricosa, apice acutisscula; anfract. 7 convexis, ultimo ½ longitudinis subaquante, infra medium obsolete angulato; apertura parum obliqua, ovali; perist. continuo, indistincte duplicato, margine dextro expansiusculo, sinistro strictiusculo, adnato.

Long. 7, diam. 3 mill.

Hab. Taiti (Jacq.); Marquesas Islands (H. Cuming).

4. Realia rubella, Pfr. R. testa subperforata, turrito-oblonga, solida, lavigata, pallide rubella; spira elongata, superne attenuata, acuminata, sutura profunda; anfract. 8 convexis, quasi strangulatis, ultimo ½ longitudinis non attingente, obsolete angulato; apertura vix obliqua, angulato-ovali; perist. continuo, breviter adnato, duplicato: externo subincrassato, patente.

Long. 8, diam. 3 mill.

Hab. Marquesas Islands (H. Cuming).
II. Hydrocena.

Pfr. in Zeitschr. f. Malak. 1847, p. 112.


Shell imperforate or umbilicate, globose-turbinate, ovate or turreted; aperture ovate or semicircular; peristome simple, straight or expanded, with disjointed margins.

A. *Hydrocena*, Parr.

(Shell imperforate or subperforate; base of the last whorl not keeled; columellar margin rather callous.)


*Cyclostoma minutissimum*, Sow.

*Realia minutissima*, Gray.


*Hydrocena Sirius*, Parr. in sched.

*Realia Cattaroensis*, Gray, 1850 (Dalmatia).

4. **Hydrocena Bridgesi**, Pfr. *H. testa vix subperforata, ovato-conica, solida, levigata, daucino-rubra; spira conica, apice acuta; sutura lineari; anfract. 7 planis, ultimo spiram aequare, basi rotundate; apertura vix obliqua, acuminato-ovali, basi sub-effusa; perist. simplice, recto, marginibus callo tenuissimo junctis, columellari subreflexo. Long. 10½, diam. 6 mill.

*Hab.* under stones in damp places, Valdivia (Bridges).

5. **Hydrocena solidula**, Pfr. *H. testa subperforata, ovato-conica, solidula, sublevigata, irregulariter erosa, haud nitente, cerea; spira convexo-conica, apice acuta; anfract. 6 subplanis, ultimo spira paulo breviore, obsolete angulato, basi convexiusculo; apertura verticali, angulato-ovali; perist. simplice, recto, marginibus callo tenuissimo junctis, columellari subreflexo. Long. 6, diam. 4 mill.

*Hab.* Lord Hood’s Island.

6. **Hydrocena oblonga**, Pfr. *H. testa subperforata, oblongo-conica, solidula, striatula, opaca, fulvo-albida; spira ovato-conica, apice acuta; sutura marginata; anfract. 6 convexiusculis, ultimo longitudinis paulo superante, convexiore, peripheria filocarinato, juxta perforationem punctiformem subcompresso; apertura verticali."

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calli, angulato-rotundata, intus aurantiaca; perist. simplice, recto, margine columellari calloso, subpatente.

Long. 6½, diam. 3 mill.

**Hab.** Marquesas Islands.

7. **Hydrocena cornea**, Pfr. *H. testa subperforata, ovato-conica, solidula, laxigata, nitida, fulvo-cornea; spira conica, apice acuta; sutura impressa, submarginata; anfract. 6¼ convexiusculis, ultimo spira paulo breviore, peripheria obsoletissime angulato, juxta perforationem punctiformem vel clausam subcompresso; apertura obliqua, angulato-ovali, basi subeffusa; perist. simplice, margine dextro recto, columellari calloso, subappresso.

Long. 10, diam. 5 mill.

**Hab.** Borneo and Bashee Island (Sir E. Belcher).

8. **Hydrocena albenscens**, Pfr. *H. testa subperforata, ovato-conica, solidula, sublaxigata, albida vel pallide lutescente; spira convexo-conica, apice acuta; anfract. 6 convexiusculis, ultimo spira paulo breviore, infra medium obsolete subangulato, basi rotundato; apertura subverticali, angulato-ovali; perist. simplice, recto, margine columellari calloso, subappresso.

Long. 7, diam. 4 mill.

**Hab.** Island of Opara.

9. **Hydrocena obtusa**, Pfr. *H. testa imperforata, conico-ovata, tenuiuscula, striatula, nitida, fulvo-cornea; spira conica, obtusa; sutura marginata; anfract. 5 planiusculis, ultimo spira paulo longiore, ventroso; apertura subverticali, angulato-semiovali; perist. simplice, recto, margine columellari calloso, reflexo, appresso.

Long. 6¼, diam. 4 mill.

**Hab.** —?

10. **Hydrocena brevicula**, Pfr. *H. testa subimperforata, globo-conica, solidula, sublaxigata, corneo-fulva; spira convexo-conica, acutiuscula; sutura sulco profundo marginata; anfract. sub 6, superis planis, plerumque erosis, penultimo convexo, ultimo spira longiore, inflato; apertura subverticali, angulato-semiovali; perist. recto, margine columellari calloso, appresso.

Long. 8½, diam. 3½ mill.

**Hab.** Singapore.


Long. 6, diam. 4 mill.

**Hab.** Singapore.

12. **Hydrocena exserta**, Pfr. *H. testa subperforata, ovato-
turrita, solida, confertim striata, fusculo-cornea; spira elongato-conica, apice acuta; anfract. 6 convexiusculis, subcarinatis (carina ad suturam subeversa), ultimo $\frac{3}{2}$ longitudinis formante, peripheria angulato, basi compressiusculo; apertura vix obliqua, acuminato-rotundata; perist. subsimplice, margine dextro expansiusculo, superne leviter repando, columellari caloso, subreflexo.
Long. 7, diam. 4 mill.

Hab. Shanghai, China.

B. Omphalotropis, Pfr.

(Realia, Gray, 1852.)

(Shell perforated or umbilicated, with a keel round the umbilicus; peristome straight or expanded.)

Hab. —?

Omphalotropis pupoides, Pfr. Mon. p. 307. (Opara.)

Omphalotropis terebralis, Pfr. Mon. p. 307. (Tahiti and Eimeo.)

Omphalotropis rosea, Pfr. Mon. p. 308. (Feejee Islands.)

Omphalotropis vallata, Pfr. Mon. p. 308. (Tonga Tabou.)

Omphalotropis scitula, Pfr. Mon. p. 308. (Tahiti, Eimeo, Manua.)

Omphalotropis aurantiaca, Pfr. Mon. p. 309. (Pondicherry.)

20. Hydrocena exquisita, Pfr. H. testa perforata, conica, tenui, confertim striata, vix nitidula, sordide fulva; spira elongata, concavo-conica, apice acuta; sutura submarginata; anfract. 6 convexiusculis, ultimo spira breviore, peripheria magis minusve distincte carinato, basi acute filocarinato; apertura obliqua, subovali, superne et latere sinistro angulata, basi subeffusa; perist. simplice, recto, margine columnellari sinuoso-patente.
Long. 9, diam. 5 mill.

Hab. Lord Howe’s Island, Australian Seas (Macgillivray).

21. Hydrocena rubens, Quoy.
Omphalotropis rubens, Pfr. Mon. p. 309. (Isle of France.)

22. Hydrocena erosa, Quoy.
Omphalotropis erosa, Pfr. Mon. p. 310. (Guam.)
23. Hydrocena huaheinensis, Pfr. *H. testa perforata, elongato-conica, solida, striatula et irregulariter pustulato-punctata, opaca, flavida vel fulvida; spira conica, apice acuta; anfract. 6 2/3, superis planis, penultimo convexiusculum, ultimo 3/5 longitudinis subaequante, basi rotundata, juxta perforationem punctiformem carinato; apertura verticali, angulato-ovali; perist. tenui, margine dextro arcuato, recto, columellari minus arcuato, patente.

Long. 9 1/2, diam. 5 mill.

Hab. Island of Huaheine.


Omphalotropis dubia, Pfr. Mon. p. 310. (Opara, Real Llajos.)

25. Hydrocena radiata, Pfr. *H. testa perforata, ovato-conica, tenuissula, sublcevigata, nitida, diaphana, alba, fulva irregulariter radiata; spira conica, apice acuta; sutura submarginala; anfract. 7 planiussulis, ultimo 2/5 longitudinis subaequante, ventroso, peripheria subangulata, juxta perforationem apertam carinato-compresso; apertura verticali, acuminato-ovali, basi subeffusa; perist. simplice, recto, margine columellari superne subdilatato.

Long. 7 1/2, diam. 4 mill.

Hab. Borneo.


Omphalotropis multilirata, Pfr. Mon. p. 311. (Mauritius.)

27. Hydrocena globosa, Bens.

Omphalotropis globosa, Pfr. Mon. p. 311. (Mauritius.)

28. Hydrocena malleata, Pfr. *H. testa subperforata, ovatoconica, solida, irregulariter malleata, carneo et albo variegata; spira conica, acuta; anfract. 6 planiussulis, ultimo spiram subaequante, ventroso, ad periomphalum carina funiformi munito; apertura parum obliqua, angulato-ovali, intus aurantiaca vel fulva; perist. subcallosa, margine dextro recto, basali subangulatum producto, columellari subpatula.

Long. 7, diam. 4 1/2 mill.

Hab. Australia.

29. Hydrocena glabrata, Pfr. *H. testa perforata, ovato-conica, tenuiuscula, glabra, nitida, fulvo-cornea; spira convexo-conica, apice acuta; anfract. 7 convexis, ultimo spira breviore, rotundato, circa perforationem punctiformem filocarinato; apertura vix obliqua, ovali, superne vix angulata; perist. simplice, recto, margine columellari subdilatato, patente.

Long. 6 1/2, diam. 4 mill.

Hab. Island of Borneo.


Omphalotropis plicosa, Pfr. Mon. p. 311. (Hab. ——— ?)

31. Hydrocena granum, Pfr. *H. testa vix perforata, conico-
ORTHOTOMUS DERBIANUS Moore

By Frederic Moore, Assist. Mus. East India Company.

(Aves, Pl. LXXVI.)

At a Meeting held in the early part of the present year, I had the honour of laying before this Society a monograph of this interesting genus, and since that time I have been favoured by my brother with a search, through the birds contained in the Derby Museum, which has resulted in the discovery of two additional undescribed species. These I now proceed to characterize.

Orthotomus derbianus, Moore. (Pl. LXXVI.)

Forehead, crown and occiput dark ferruginous; back, rump and sides of neck ash-colour; ear-coverts, throat and breast pale ash, with the centre of the feathers whitish; flanks ashy-white; belly and vent dull white; wings brown, broadly margined throughout with yellowish-green; edge of shoulder pale brown; under wing-coverts rufescent-white; tail much graduated, ferruginous-brown above, dusky at base, paler beneath, and without discernible terminal spots or band; thighs ferruginous; upper mandible horn-colour, lower mandible and legs pale.

Length, 5½ inches; of wing 2 inches; tail 2½ inches; bill from frontal plumes ¾th inch, to gape ⅜ths inch, and tarsus ⅜ths of an inch.


Remark.—May be distinguished from all the previously known species by its greater size, and in having the ear-coverts, throat and breast ash-colour, with the centres of the feathers whitish.

Orthotomus maculicollis, Moore.

Forehead ferruginous, becoming dull on crown; feathers of the occiput greenish-brown, faintly edged with black; nares, behind the eyes, a line under, with the ear-coverts and sides of neck ferruginous-white, each feather being edged with black; back and rump
greenish; throat white; breast, belly and vent ferruginous-white; sides of breast black, and flanks light greenish; wings brown, edged exteriorly with greenish-ferruginous-brown; edge of shoulder and under wing-coverts pale rufescent-white; tail brown above on the inner webs, and yellowish on the outer, beneath pale ashy-brown, having indistinct dusky spots towards the end, and pale at the tips and inner margins of the feathers; thighs pale ferruginous. Bill, darkish horn above, paler beneath; legs yellowish.

Length, 4\(\frac{3}{10}\) inches; of wing 1\(\frac{8}{10}\) in.; tail 1\(\frac{6}{10}\) in.; bill to gape 5, and tarsus \(\frac{6}{10}\) of an inch.


Remark.—Allied to, but distinguished from *O. longicauda* by having the sides of the head and neck ferruginous-white, each feather being edged with black.


By Dr. Newcomb.

*Achatinella viridans*, Mighels. Colour light grey, with two stripes of dark slate, extending back from the base of the superior tentacles. Tentacles strongly clubbed, rather short and robust; mantle thick, of a yellowish-brown colour. When in motion longer than the shell.

(Shell always dextral. *Hab.* E. end of Oahu.)

*Achatinella decipiens*, Nob. Animal slate colour; upper portion of tentacles intensely black; mantle and bottom of foot light slate.

(Shell often reversed. *Hab.* S.W. side of Oahu.)

*Achatinella rutila*, Nob. Animal small for the size of the shell, with long filiform tentacles, but slightly clubbed; colour light flesh.

*Achatinella subvirens*. Animal not observed.

*Achatinella radiata*, Gould. Resides more than 100 miles from *A. grisea*, and on a different island. The former is terrestrial, the latter arboreal in its habits. The first is usually dextral, the latter always sinistral. No comparison of the animals was made.

*Achatinella rubiginosa*, Nob. Has the mantle uniformly of a light flesh colour, &c. *A. taniolata*, Pfeiffer, has the mantle always of a dark brown or black.

*Achatinella glabra*. No description, but is a very distinct species from *A. elegans*, never being found associated in the same localities; the first is always dextral, the latter as often sinistral as dextral.

*Achatinella rubens*, Gould. Animal slate-coloured, traversed
when extended by numerous light-coloured lines; tentacles black; bottom of foot and mantle brown. Motions slow and timid.

_Hab._ Oahu.

**Achatinella Mastersi** (var. from Molokai). Animal longer than the shell; of a light flesh-colour, covered with minute granulations, tipped with carmine; tentacles dark brown or black.

This animal is the most beautiful of the genus. Motions bold and lively. Lives on the _Olova_, or native hemp, a large shrub. _A. rubens_ is found only on the ground.

**Achatinella perditix**, Reeve. An arboreal species, often sinistral; inhabits West Mani. _A. Adamsi_ is usually found on the ground; only a single specimen out of five hundred is sinistral, and this shows a greater variation from _perditix_ than the dextral shells; six or seven varieties of _perditix_ do not in any way identify the two species.

**Achatinella picta**, Mighels. Animal densely black; tentacles long, slate-coloured; mantle and foot brownish-black.

_Hab._ Mani.

**Achatinella tetrao**, Nob. Animal tessellated above with brown and white; mantle dirty yellow; bottom of foot of same colour, margined with white. Tentacles light brown.

_Hab._ Ranai. (Not published.)

**Achatinella Helena**, Nob., is extremely limited in its locality, which has been twice carefully searched by myself, without discovering larger specimens, dead or alive, that approach it in form. Several of the specimens contained the young in the oviducts.

**Achatinella physa**, Nob. No opportunity has occurred for examining the animal, but it is probably adult.

**Achatinella virgulata**, Mighels. Animal, including mantle and tentacles, varying from bluish to yellowish-white.


**Achatinella tessellata**, Nob. Animal very large, dark slate, with a black mantle.

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7. **Descriptions of Twenty-seven New Species of Shells from the Collection of Hugh Cuming, Esq.**

By Arthur Adams, F.L.S.

1. **Triton (Cabestana) boltenianus**, A. Adams. _T. testa_ ovato-ventricosa, subumbilicata, cinereo-fulviceae, epidermide fusca obtecta; anfractibus plicato-nodosis, lineis elevatis, corrugaatis, transversim liratis, liris inaequalibus; _apertura ovata_,
labio corrugato-plicato, canali brevi aperto, labro expanso fimbriato, intus dentato-plicato.

_Hab._ Australia. (Mus. Cuming.)
The whorls in this species are nodosely plicate in the middle, and the surface of the shell throughout is corrugated longitudinally.

2. **Triton** (Cabestana) _africanus_, A. Adams. _T._ _testa_ ovato-ventricosa, umbilicata, albido-cinerascente, _rufo_ fusque _variegata_, _anfractibus_ _spiratis_, _supremis_ _liris_ tribus elevatis, nodulosis, _spiralibus_ cinctis, ultimo sublævigato, cingulis, _subobsoletis_ ornato, _dorso_ nodoso, _latere_ sinistro _longitudinaliter_ varicoso, _varice_ nodoso, _fusco_ _alboque_ articulato; _apertura_ ovata, _labio_ _levi_, _labro_ _margine_ _extus_ varicoso ac _nodoso-lirato_, _intus_ _plicato._

_Hab._ Ichaboe; South Africa. (Mus. Cuming.)
A remarkable-looking shell, with the last whorl nearly smooth, and the upper whorls with spiral elevated ridges.

3. **Triton pyriformis**, A. Adams. _T._ _testa_ _pyriformi_, _straminea_, _albo_ _rufoque_ _variegata_, _spira_ _brevi_, _obtusa_, _anfractibus_ _quinque_, _transversim_ _liratis_, _valde_ _nodoso-plicatis_, _varice_ _unico_ _instructis_; _anfractu_ _ultimo_ _nodulis_ _duobus_ _elevatis_ _ad_ _dorsum_ _ornato_; _apertura_ _ovata_, _labio_ _transversim_ _corrugato_, _canali_ _mediocri_, _recurvo_, _aperto_, _labro_ _extus_ _varicoso_, _intus_ _plicato-lirato._

_Hab._ China. (Mus. Cuming.)
This species is pyriform, with a double row of compressed tubercles in the middle of each whorl. There are no regular varices, and the canal is recurved.

4. **Triton comptus**, A. Adams. _T._ _testa_ _fusiformi_, _sordide_ _carnea_, _varicibus_ _albo_ _rufoque_ _variegatis_; _spira_ _elevata_, _anfractibus_ _rotundatis_, _transversim_ _crebre_ _liratis_, _valde_ _nodosoplicatis_, _varice_ _unico_ _instructis_; _anfractu_ _ultimo_ _nodulis_ _duobus_ _elevatis_ _ad_ _dorsum_ _ornato_; _apertura_ _ovata_, _labio_ _transversim_ _corrugato_, _canali_ _longo_, _tenui_, _recurvo_, _labro_ _extus_ _varicoso_, _intus_ _dentato-lirato._

_Hab._ China. (Mus. Cuming.)
This species is of a dirty flesh-colour, with the varices variegated with white and fuscous; the canal is slender, and recurved, and there are two elevated nodules on the back of the last whorl.

5. **Triton obscurus**, A. Adams. _T._ _testa_ _fusiformi_, _fusca_, _nigro-fusco_ _variegata_, _epidermide_ _pilosa_ _oblecta_; _spira_ _acuminata_, _anfractibus_ _transversim_ _liratis_ ac _longitudinaliter_ _plicatis_, _varice_ _unico_ _instructis_; _apertura_ _ovata_, _labio_ _intus_ _valde_ _transversim_ _plicata_, _labro_ _extus_ _varicoso_, _intus_ _dentato-plicato._

_Hab._ South coast of Africa. (Mus. Cuming.)
This is an ovately fusiform species, covered with a brown pilose epidermis, with a single varix on each whorl, and with both lips of the aperture corrugately plicated, the plaits in the inside of the outer lip being almost dentiform.
6. **Pisania filaris**, A. Adams. *P. testa ovato-acuminata, testacea, spira producta, superne subcylindracea, apice obtusa; anfractibus septem, convexiusculis, longitudinaliter substriatis, transversim liratis; apertura ovali, columella incurva, antice uniplicata, oblique truncata, labro extus varicoso, intus sulcato, margine acuto.*

*Hab.* China. (Mus. Cuming.)

A very simple and elegant species, with a subcylindrical apex, and possessing many of the characters of *Metula* and *Truncaria*.

7. **Cominella maura**, A. Adams. *C. testa ovato-fusiformi, nigro-fusca, albo lineata; anfractibus planiusculis, transversim valde sulcatis, sulcis distantibus cequalibus; apertura ovali, columella simplice, labro intus sulcato.*

*Hab.* Darnley's Island, Capt. Ince. (Mus. Cuming.)

This is a blackish-brown shell, in some specimens lineated with white; the whorls are constricted just below the sutures, and the upper ones are longitudinally plicate and somewhat eroded.

8. **Cominella quoyana**, A. Adams. *C. testa fusiformi, spira acuminata, albida, rufo-fusca maculata; anfractibus octo, longitudinaliter oblique plicatis, plicis superne subnodulosis, transversim sulcatis; apertura ovali, columella antice uniplicata, labro intus sulcato.*

*Hab.* New Zealand. (Mus. Cuming.)

This shell is possibly a variety of the *Buccinum costatum*, Quoy and Gaimard, which appears to be a very variable species; it has, however, well-marked characters of its own.


*Hab.* Sandwich Islands, Dr. Newcomb. (Mus. Cuming.)

A handsome species, with a zone of black-brown spots at the sutures, and another series in the middle of the last whorl; the beak stained with brown-black.


*Hab.* Australia. (Mus. Cuming.)

A peculiar whitish waxy-looking shell, with smooth nodulous whorls.
11. Latirus armatus, A. Adams. L. testa ovato-fusiformi, umbilicata, spira apertura breviore, fulva, epidermide fusca obtecta; anfractibus longitudinaliter plicatis, lira prominenti transversa (muricata ad plicas) in medio anfractuum ornatis, ultimo liris minoribus instructo; apertura ovali, canali recto, aperto, columella obsolete plicata, plicis quinque, labro intus sulcato, margine crenato.

Hab. California. (Mus. Cuming.)

This is an ovately fusiform shell, with a muricated transverse ridge in the middle of the whorls, which are covered with a brown epidermis.

12. Latirus Newcombii, A. Adams. L. testa ovato-fusiformi, spira aperturam æquante, alba, apice basique atro-purpureo tincta, serie macularum atro-purpurearum in medio anfractuum, et altera serie ad suturas ornata; anfractibus longitudinaliter plicatis, transversim liratis; apertura ovali, columella plicis paucis obsolete instructa, labro intus sulcato.

Hab. Sandwich Islands, Dr. Newcomb. (Mus. Cuming.)

This is a very pretty little species, of a white colour, stained at the apex and base with blackish-purple, with a transverse row of blackish-purple spots in the middle of the whorls and another row at the sutures.

13. Latirus flavidus, A. Adams. L. testa fusiformi, imperforata, pallide flava, spira aperturam æquante; anfractibus longitudinaliter plicatis, plicis distantiibus, rotundatis, transversim crebre liratis, linea elevata transversa ad partem antecam et liris verrucosis transversis ornata; apertura ovato-quadrate, canali mediocris aperto, labro intus sulcato, columella plicis paucis obsolete instructa.

Hab. Philippines. (Mus. Cuming.)

This is a simple yellow, somewhat smooth species, with a number of transverse verrucose liræ at the fore part of the last whorl.

14. Latirus neglectus, A. Adams. L. testa turbinato-fusiformi, umbilicata, spira apertura longiore, sordide alba, fusco tincta; anfractibus convexiusculis, longitudinaliter plicatis, plicis distantiibus, crassis, rotundatis, transversim liratis, liris inaequalibus, ad plicas elevatis; apertura ovata, intus carneae, canali brevi subrecurvo, columella antice obsolete plicata, labro intus sulcato.

Hab. China. (Mus. Cuming.)

An umbilicated, turbinately-fusiform species, with the interior of the aperture pink, and with a short, somewhat recurved canal.

15. Latirus distinctus, A. Adams. L. testa fusiformi, spira aperturam magis æquante, alba; anfractibus longitudinaliter plicatis, interstitiis atro-purpureo tinctis, liris duabus elevatis,
nodulosis ad plicos, et linea transversa elevata ad suturas instructis; anfractu ultimo antice constricto; apertura subquadrata, columella plicis quatuor instructa, canali aperto, labro intus plicato.

_Hab. — ? (Mus. Cuming.)_  
This is a handsome white shell, with the interstices between the longitudinal plicae stained of a dark purple colour.

16. _Latirus marquesanus_, A. Adams.  
_L. testa fusiformi, umbilicata, sordide alba, rufo tincta, apice purpurea, linea transversa elevata ad suturas instructis; anfractu ultimo antice constricto; apertura subquadrata, columella plicis quatuor instructa, canali aperto, labro intus plicato._

_Hab. Marquesas. (Mus. Cuming.)_  
The base of the last whorl is stained with purplish-black, as is also the apex; the shell is umbilicated, and the plicae are rough, with minute imbricate scales.

17. _Latirus despectus_, A. Adams.  
_L. testa ovato-fusiformi, umbilicata, spira aperturam æquante, fusca, lineis albis transversis ornata, antice atro-purpureo tincta; anfractibus planiusculis, longitudinaliter plicatis, plicis distantibus, rotundatis, transversim liratis, liris subequalibus, confertis, supremis ad suturas crenato-dentatis, suturis impressis; apertura ovali, columella plicis quatuor subobsoletis instructa, canali brevi, labro intus sulcato._

_Hab. Chinese Seas. (Mus. Cuming.)_  
A small fusiform fuscous species, transversely lineated with white, and stained at the fore part with blackish-violet.

18. _Latirus elegans_, A. Adams.  
_L. testa fusiformi, albida, spira aperturam æquante; anfractibus convexiusculis, longitudinaliter plicatis, plicis validis, rotundis, transversim liratis, interstititis clathratis; apertura ovali, columella triplicata, canali subproducto, labro intus sulcato._

_Hab. — ? (Mus. Cuming.)_  
This is an elegant fusiform species, of a white colour, with rounded plicate whorls, neatly clathrate in the interstices.

19. _Latirus contemptus_, A. Adams.  
_L. testa ovato-fusiformi, spira aperturam æquante, pallide fusca, lineis elevatis, transversis, rufo-fuscia ornata, longitudinaliter plicata; apertura ovata, columella plicis tribus subnodulosis instructa, labro postice sinuato, margine crenulato, intus liris elevatis instructo._

_Hab. West Indies. (Mus. Cuming.)_  
A small brown species, ornamented with transverse red-brown lines, and with the outer lip sinuated at the hind part; the plicae are rib-like, and rather nodulous at the transverse elevated lines.
20. Latirus decoratus, A. Adams. L. testa ovato-fusiformi, alba, castaneo varie tincta, longitudinaliter plicata, transversim lirata, liris majoribus cum minoribus alternantibus, duabus ad suturas moniliformibus; apertura ovali, canali brevi, columella plicis tribus instructa, labro intus sulcato.
Hab. New Zealand. (Mus. Cuming.)
This is a pretty little species; white, with chestnut markings, and with a double series of granules encircling the whorls at the sutures.

21. Latirus Strangei, A. Adams. L. testa fusiformi, umbilicata, flavida, spira aperturam cequante, anfractibus longitudinaliter plicatis et lineis transversis, elevatis, subnodulosis cincta, suturis impressis; anfractu ultimo antice coarctato; apertura ovali, columella antice plicata, canali mediocri, labro intus lirato.
Hab. Sydney, Mr. Strange. (Mus. Cuming.)
This species is of a pale yellow colour, ornamented with transverse red-brown lines, and with the canal moderate and turned to the left. Some varieties are straw-coloured without the lines, and tinged with blackish-violet at the fore part.

22. Euchelus proximus, A. Adams. E. testa globoso-conica, anguste umbilicata, albida, nigro punctata, anfractibus rotundatis, suturis impressis, cingulis asperulatis, equalibus, transversis, interstitiis clathratis ornatis; columella tuberculo parvo terminata; labro intus sulcato.
Hab. Moluccas. (Mus. Cuming.)
In colour and markings this species somewhat resembles E. asper, but it is narrowly umbilicated, and there is a distinct tubercular tooth at the fore part of the columella.

23. Euchelus indicus, A. Adams. E. testa globoso-conica, imperforata, grisea, cingulis transversis, inaequalibus, conflatis, moniliformi ornata, anfractibus rotundis; columella ad basin tuberculo acuto instructa; labro expanso, intus valde lirato.
Hab. Bombay. (Mus. Cuming.)
This is a solid, imperforate, grey-coloured species, of the same dimensions and style of sculpture as E. denigratus, Chemn., but quite distinct specifically.

24. Clanculus depictus, A. Adams. C. testa conoidea, pseudounbilicata, albida, viridi fuscoque radiatim picta, cingulis subgranosis, inaequalibus ornata, anfractibus planis, ultimo ad peripheriam angulato; margine umbilici simplex; columella superne uniplicata, inferne tuberculis tribus parvis instructa; intus lirato, margine laevi.
Hab. Bombay. (Mus. Cuming.)
A prettily variegated, conical species, somewhat resembling a Polydonta in appearance.

25. Chlorostoma funebrale, A. Adams. C. testa turbinata,
imperforata, nigra, glabra, longitudinaliter oblique striata, ad suturas crenulata, anfractibus convexusculis, ultimo rotundato, basi planiusculo, regione umbilicali valde impressa, callo albo obtecta; columna superne sinuata, antice bituberculata, tuberculo superno prominentem; labro nigro marginato.

_Hab._ California. (Mus. Cuming.)

This species is somewhat like _C. maestum_, Jonas, but the spiral callus surrounding the umbilicus is not prominent as in that species.

26. **Philippia Layardi**, A. Adams. _P. testa_ depresso-conica, late umbilicata, fulva, albido maculata, anfractibus planiusculis, levigatis, ad suturas cingulis duobus instructis, anfractu ultimo ad peripheriam angulato, cingulis tribus ornato, basi planiusculo, cingulis granorum (circa regione umbilicali) instructo, margine umbilici crenulato.

_Hab._ Ceylon, Mr. Layard. (Mus. Cuming.)

A brownish-yellow species, with the margin keeled, and with the surface of the valves smooth.

27. **Philippia oxytropis**, A. Adams. _P. testa_ conico-depressa, discoidea, late umbilicata, albida, luteo fuscoque variegatim picta, nucleo magno, albido, vitreo, anfractibus planiusculis, transversim lineaetis, ad suturas cingulis duobus elevatis instructis; ad peripheriam acute angulato, cingulis duobus cineta, basi convexuscula; margine umbilici crenato, corrugato.

_Hab._ New Caledonia. (Mus. Cuming.)

A pretty variegated species, with a large smooth glassy nucleus, and with the periphery acutely keeled.

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8. **Descriptions of New Shells from the Collection of Hugh Cuming, Esq.** By M. G. P. Deshayes.

1. **Psammobia maxima**, Desh. _P. testa_ magna, ovato-transversa, compressiuscula, solida, valde inaequilaterali, utroque latere hiante, transversim inaequaliter et obsolete striata, postice subundulata, ad margines epidermide fusca vestita, albo-lutescente, roseo radiata, intus alba, vel flavido tincta; latere antico brevi, late rotundato, tantummodo attenuato; latere postico oblique rotundato, subangulato; umbonibus depressis, latis, obliquis, vix prominentibus; cardine dextro unidentato, dente compresso acuminato, sinistro sub-bidentato, dentibus angustissimis, parum prominentibus; nymphis maximis, prominentibus, latis; sinu pallii magno, profundo, latissimo.

_Hab._ ——? Coll. Cuming.

2. **Psammoria nivosa**, Desh. _P. testa_ ovato-transversa, solidula, compressiuscula, utroque latere hiante, inaequilaterali, transversim
substriata, roseo-purpurascens, maculis sparsis, niveis irrorata, intus albo-rosea, superne purpurea, flavescenti-bimaculata; latere antico breviore, late rotundato, postico latiore, superne recto, non declivi, horizontali, late obtuse truncato; umbonibus minimis, depressis, latis, vix prominentibus; cardine inaequiliter bidentato, altero unidentato; sinu pallii profundo, apice latiore, truncato.


3. **Psammobia oriens**, Desh. _P._ testa ovato-transversa, satis lata, nitida, solidula, inaequilaterali, transversim substriata, in latere postico inaequiliter sulcata, pallide rosea, roseo-purpurascence eleganter radiata et lineolis angulosius, irregularibus ornata, intus albo-rosea; latere antico breviore, superne subrecto, parum declivi, late obtuso; latere postico late et oblique truncato; nymphis magnis, latis, prominentibus; cardine bidentato, altero unidentato; dentibus angustis, valde prominentibus; sinu pallii profundo, digitiformi.

Var. β. Testa ad apices violacea, lineolis angulosius destituta.


4. **Psammobia lata**, Desh. _P._ testa ovato-transversa, lata, depressa, solidula, inaequilaterali, inaequiliter transversim striata, epidermide fuscescente, postice irregulariter semiplicata vestita, ad umbones roseo-purpurascense, ad margines albo-flavescente; lateribus equaliter rotundatis, superne convexo-declivibus; margin inferiore convexiusculo; cardine angusto, in utrague valva bidentato, dentibus angustis, prominentibus; sinu pallii lato, profundo, apice obtusissimo; valvis intus albo pallide violascensibus.

_Hab._ Central America; Sancta Elena. Coll. Cuming.

5. **Psammobia togata**, Desh. _P._ testa ovato-transversa, tumidula, inaequilaterali, extremitatis sensim attenuata, attamen antice rotundata et breviore, postice oblique truncata, epidermide fusco-virente, marginis superante, vestita, ad umbones decidua vel erosa; valvis intus extusque albis; cardine angusto, bidentato, altero unidentato, dentibus compressis, approximatis, acuminatis; sinu pallii magno, oblique ascendente, dilatato.

_Hab._ Philippine Islands. Coll. Cuming.

6. **Psammobia tristis**, Desh. _P._ testa ovato-transversa, depressuscula, solidula, subaequilaterali, transversim inaequaliter striata, albo-grisea, obscure violaceo radiata, intus pallide violacea; latere antico paulo longiore, lateribus superne atque postice equaliter declivibus, antico late obtuso, postico late obtuse truncato, subangulato; cardine angusto, bidentato, altero unidentato, dentibus apice bidentis; sinu pallii profundo, lato, apice obtuso, marginibus parallelis.


7. **Psammobia grata**, Desh. _P._ testa ovato-transversa, subaequilaterali, solidula, tumidula, antice obtusa, breviore, postice
subtruncata, transversim obsolete striata, alba, pallide violaceo multiradiata, radiis albo maculatis, lineolis longitudinalibus, irregularibus, notatis, intus alba; cardine unidentato, albero bifidato, dentibus obtusiis, apice bifidis; sinu pallii lato, profundo, apice obtuso, marginibus parallelis.


8. Psammobia zelandica, Desh. P. testa ovato-transversa, æquilaterali, breviuscula, utroque latere rotundata, compressa, transversim obsolete et irregulariter striata, alba, radiis rubropurpureis, interruptis seu maculatis ornata, intus alba, radiis pallidioribus; sinu pallii magno, lato, elliptico.

Hab. New Zealand.

9. Psammobia intermedia, Desh. P. testa ovato-transversa, convexiuscula, solida, æquilaterali, albida, roseo grate radiata, transversim rugosa, rugis profundis, paulisper undulatis, postice crassioribus, latoriibis, irregularibus; latere antico late rotundato, semi-elliptico, postico declivi, paululum attenuato, oblique extremitate truncato; cardine bidentato, altero unidentato; sinu pallii profundo, lato, ad apicem subsinusoso; valvis intus pallide violaceis.

Hab. Coast of Portugal.

10. Psammobia modesta, Desh. P. testa elongato-transversa, angusta, solida, convexiuscula, subæquilaterali, transversim satis regulariter striata, striis ad umbones et latus posticum evanescentibus, albida, roseo-purpurascence pauci-radiata; latere antico paulo longiore, obtuso, superne fere recto, inferne magis arcuato, postico superne recto, subangulato; cardine angusto, maculis duabus vivide violaceis notato, bidentato, altero unidentato; valvis intus albo-violascentibus; sinu pallii profundo, superne declivi, extremitate attenuato.


11. Psammobia candidula, Desh. P. testa elongato-transversa, tumidula, crassiuscula, subæquilaterali, levigata, irregulariter incremento interrupta, albido pallide flavescente; latere antico paulo longiore, superne fere recto, paulo declivi, obtuso; latere postico paulo latiore, obtuse subangulato; umbonibus minimis, prominulis; valvis intus albis; sinu pallii profundo, angusto, horizontali, marginibus parallelis.


12. Psammobia menkeana, Desh. P. testa elongato-transversa, angusta, depressiuscula, tenui, fragili, æquilaterali, albo-flavescente, vel pallide violascente, intus saturatiore violacea; latere antico late rotundato, postico obtuse truncato, obtusissime angulato; cardine solidiusculo, bidentato, albero unidentato, dentibus inæqualiter bifidis; sinu pallii profundo, subtriangulari, apice
obtusa, superne valde declivi et convexiusculo; valvis inaequaliter extus striatis, striis ad latus posticum interruptis.


14. **Psammobia puella**, Desh. *P. testa elongato-transversa, tenui, depressa, inaequaliter, nitida, tenui regulariter transversim striata, striis depressis, in latere postico latiore, rugaeformibus, alba, ad umbones nitide violacea, roseo eleganter radiata, intus pallide violascente; latere antica longiore, obtusa, superne convexiusculo, rotundata; latere postico angustiore, convexiusculo, obtuse subangulata; linea impressa pallii antice margin superne remata, sinu profundo, ad extremitatem superne declivi, attenuato.


15. **Psammobia anomala**, Desh. *P. testa elongato-transversa, tenui, fragili, tumidula, subaequaliter, nitida, aliquantis per hyalina, roseo-purpurascence vel violascente obsolete radiata, transversim oblique minute striata, striis ad latus posticum evanidis; latere antica paulo attenuato, obtuso, postica paulo latiore, truncata, angulo oblique decurrente distincto; valvis intus pallide roseo-violacea; cardine angusto, bidentato, altero undentata, dentibus lateralibus subaequalibus, prominulis, elongatis, angustis; sinu pallii lato, profundo, late obtuso.


16. **Psammobia tenuis**, Desh. *P. testa elongato-transversa, convexiuscula, tenui, hyalina, fragili, inaequaliter, pallide rosea, oblique tenuissime et regulariter striata, striis ad latus posticum aupte terminatis; latere antico longiore, paulo attenuato, superne vix convexo; latere postico latiore, late truncato, superne recto; nymphis brevibus, angustis, vix prominentibus; cardine angustissima, inaequaliter bidentata, dentibus minimis, majoribus bifidis; sinu pallii latissima, profunda, late obtuso.

Var. β. Testa paulo solidiore, rosea, eleganter pallide purpurascence radiata.


17. **Psammobia petalina**, Desh. *P. testa minima, compressa, tenui, pellicida, fragili, inaequaliter, nitida, obsolete transversim striata, pallide alba-violascente, violaceo quinqueradiata, radiis
Psammobia compa, Desh.  P. testa elongato-transversa, aequilaterali, compressa, tenui, fragili, levigata substratavae, latere postico valve ductæ regulariter tenue plicato, plicis subimbricatis, pallide griseo-violaceæ, violaceo-rufescente elegantæ radiata, lineæs interruptæ, confertæ, irregulariter reticulata; latere antico semi-elliptico, obtuso, postico oblique truncato, subflexo, angulo obtuso, oblique decurrente partito; cardine angustissimae; nymphis callosis, prominentibus, intus vivide purpureo-violaceis; sinu pallii lato, profundo, horizontali, marginibus parallelis.

Psammobia oblonga, Desh.  P. testa ovato-transversa, depressa, tenui, aequilaterali, extremitatibus aequiliter obtusa, obsolete striata, nitida, albo-violascents, minute violaceo radiata, ad umbones atro-violascents, lineæs tenuissimæs, irregularibus, interruptis, longitudinalibus quasi fissurata; latere postico oblique et obtusissime angulato, supra angulum valvula ductæ striis undulato-inbricatis notata; valvulis intus vivide violascents; sinu pallii profundo, lato, superne ad extremitatem declivi; attenuato.

Psammobia striata, Desh.  P. testa ovato-transversa, depressa, solidula, inaequaliter, transversim tenue et regulariter striata, striis ad latus posticum in zona obliqua minus numerosis, inter se confluentibus, in latere postico tenuibus et regularibus; latere antico longiore, obtuso, superne paulumuldeclivi et convexusculo, postico obtuso, subangulato, oblique subtruncato; cardine angusto, bidentato, altera unidentato, dente antico valvulae ductæ apice fippo et dilatato; nymphis brevibus, angustis; sinu pallii lato, profundo, late obtuso; valvis albo-griseis, aliquantisper violaceo-rufescents radiatis, intus pallide violaceo-purpureis.

Psammobia tripartita, Desh.  P. testa elongato-transversa, anguste ellipsoidæ, compressa, aequilaterali, violaceae, maculis minimis, albis, confluentibus, irregulariter sparsis notata, seu obscure albido radiata, transversim striata, striis antice laitis et planis, in medio bipartitis, duplo numerosioribus, in latere postico subito lamellosis, imbricatis, acutis; latere antico semi-elliptico, superne inferneque fere aequaliter convexusculo, obtuso; latere postico paulum latiore, oblique truncato, angulo acutissimo inferne terminato, angulo obtuso, obsoleteo ab umbone decurrente; ligamentum.
mento magno, cylindraceo, prominente; valvis intus violaceis; sinu pallii profundo, lato, subtriangulari, inferne obliquato.

Var. β. Testa minore, angustiore, violaceo-rubescente.


22. Psammobia insignis, Desh. P. testa magna, elongato-transversa, compessa, subaequilaterali, solidiuscula, violaceo-rubescente, rubro-purpurascense pauci-radiata, radiis maculis irregularibus, interruptis formatis, transversim tenue sulcato-striata, striis ad apices tenuibus, ad margines crassioribus et profundioribus; latere antico semi-elliptico, obtuso, superne inferneque aequaliter convexiusculo; latere postico superne recto, paululum declivi, angulo carinato distincto, supra angulum latere postico carina altera seriatim granulosa bipartito; striis in latere postico sublamellosis, in carinis prominentioribus, margine postico oblique truncato, inferne acute aangulari; valvis intus vivide violaceis.


23. Psammobia bicornata, Desh. P. testa transversa, elongata, angusta, depressa, solidula, equilaterali, atro-violacea vel purpureo-violascense, violaceo saturatiore obsolete radiata, transversim sulcata, sulcis aliquantisper ad marginem inferiorem obliquatis; latere antico semi-elliptico, postico oblique recteque truncato, vivide angulato, carinis duabus acutis, divergentibus separato, area profunda, angusta, angulo arcuato distincta, lunula elongata, angustissima; latere postico valvulae dextrae eleganter clathrato; dentibus lateralibus remosis, obsolete, attamen perspicuis; valvis intus violaceis vel purpureis.

Hab. Madagascar, Zanzibar.

24. Psammobia elegans, Desh. P. testa elongato-transversa, angusta, compressa, equilaterali, transversim rugoso-plicata, rugis convexis, approximatis, depressis, saepius paulo undulatis; latere antico obtuso, semi-elliptico, postico oblique truncato, carinis duabus acutis, crenulatis notato, supra carinam in valva dextra elegant clathrato, in sinistra simpliciter plicato, margine superiore postico recto, ad umbones canaviscusculo; cardine angusto, bidentato, altero unidentato, dentibus minimis, majoribus bifidis; sinu pallii lato, profundo, horizontali, acuminato, superne declivi; valvis tenuibus, albis, elegantier intus extusque violaceo radiatis.

Hab. —— ?

25. Psammobia praestans, Desh. P. testa elongato-transversa, convexiuscula, tenui, inaequilaterali, transversim et oblique minute et regulariter striata, ad latus posticam striis subito interruptis; latere antico breviore, superne convexiuscula, obtuso; latere postico latiore, angulo obtuso oblique decurrente separato, striis radiantis, parum elevatis ornato, prope umbones tenuissime decussato; sinu pallii profundo, lato, apice late obtuso; colore variabit.
Var. β. Testa atro-violacea, maculis nivosis irregulariter sparsis, intus violaceo-alba.
Var. γ. Testa roseo-purpurascens, fusco eleanter pauci-radiata, maculis albis nubeculata, intus albo-purpurascens.

26. Psammobia Layardi, Desh. P. testa elongato-transversa, depressa, equilaterali, transversim oblique et minute striata, striis ad latus posticum valvae sinistre abrupte terminatis, in valva dextra continuis, et supra angulum obtusum lineis tenuibus longitudinalibus decussatis; latere antico semi-elliptico, superne convexiunculo; latere postico angulo subcarinato distincto, superne recto, non declivi, paulo angustiore, extremitate obtuso; valvis solidiusculis, extus pallide roseo-violaceis, albo irregulater maculatis et fusco subradiatis, intus albo-purpurascensibus, nymphis obscure violaceo tinctis.
Hab. Philippines.

27. Psammobia ornata, Desh. P. testa ovato-transversa, subventricosa, solida, inaequaliter, elliptica, albo pallide violascence, violaceo pallido marmorata, albo maculata, et rubro-cas- taneo interruptim radiata, ad umbones rufa, intus albo-violacea, in medio macula rufa notata; latere antico paulo longiore, late obtuso, postico aequaliter lato, obtuso, transversim et oblique tenue striato, striis in valva sinistra ad latus posticum, levigatum interruptis, in valva dextra cum rugis posticalibus undulatis continuis; nymphis brevibus, violaceis; sinu pallii magno, profundo, late obtuso.
Var. β. Testa depressiore, pallidiore, striis rugisque crassioribus.

28. Psammobia amena, Desh. P. testa elongato-transversa, angusta, depressa, tenui, pellucida, equilaterali, transversim regulariter striata, striis antice latioribus, in medio furcatis, postice in valva dextra evanescentibus, subobsoletis, in valva sinistra continuis, striis octo radiantibus decussatis, alba, pallidissime violascence, violacea pallido teneue maculata et obsolete radiata; latere antico superne fere recto, paululum declivi, sensim attenuato, postico paulo latiore, oblique truncato, superne recto, vix declivi, angulo obtusissimo ab umbonibus decurrente distincto, margine inferiori fere recto; ligamento prominente, cilindraceo; valvis intus albis, nymphis violaceis.
Hab. ——? Coll. Cuming.

29. Psammobia pallida, Desh. P. testa transversa, compressivula, tenui, hyalina, subaequaliter, pallide sulphurea vel violascence, obscure violaceo pallido radiata, latere antico paulo breviore, attenuato, superne paulo declivi, postico latiore, subfexuoso, oblique truncato, levigato; cardine angusto; nymphis elongatis, angustis, violaceo-roseis; sinu pallii subtrigono, horizontali, apice acuminato, superne declivi; valvis oblique eleanter striatis, striis
confertis, transversalibus, decussantibus, ad latus posticum inter-
ruptis, lineolis irregularibus, longitudinalibus, undulatis, inter-
ruptis reticulatis.
Hab. Red Sea.

30. **Psammobia rubicunda**, Desh. *P. testa pulcherrima, ovato-
transversa, tenui, utroque latere paululum hiante, subaëquilaterali,
tenue et regulariter oblique striata, striis confertis, acutiusculis, ad
latus posticum valvulae sinistrae abrupte interruptis, latere postico
late plicato, in valva dextra striis cum posticalibus continuis, non
interruptis, vivide purpureo-rubente, maculis minimis, albis, irre-
gulariter sparsis, radisque angustis, violascentibus in latere postico
divergentibus; latere antico breviore, obtuso, postico paulo latiore,
oblique truncato et obtuso; cardine angusto, nymphis brevibus,
intus callosis, callo vivide purpureo; valvis tenuibus, intus purpe-
reis, albo nubeculatis.
Var. β. Testa magis rubra, maculis albis, majoribus, minus nume-
rosis.

31. **Psammobia corrugata**, Desh. *P. testa ovato-transversa,
convexiuscula, inaequilaterali, rubro-violascente, albo irregulari-
ter maculata et rubro-violaceo saturatiore subradiata, transversim
oblique dense striata, in latere postico late et irregulariter rugosa,
rugis cum striis continuis; latere antico breviore, late rotundato,
postico parum dilatato, superne recto; cardine bidentato, altero
unidentato, nymphis violaceis; sinu pallii profundo, obtuse tri-
gono, superne declivi, basi dilatato.
Var. β. Testa omnino candida.

32. **Psammobia marmorea**, Desh. *P. testa ovato-transversa,
compressiuscula, solidula, subaëquilaterali, transversim regulariter
et oblique striata, striis acutiusculis, ad latus posticum inter-
ruptis, sub epidermide tenui, albo-violascente, rubro-purpurascen-
tusco et albo marmorata, maculis albis, minimis, sapius trans-
versis, maculis rubro-purpureis, elongatis, radiis interruptis
simulantibus; latere antico breviore, paulo angustiore, obtuso,
postico subtruncato, obsolete oblique biflexo, plicis latis, depressis,
subimbricatis notato; cardine angusto, nymphis intus callosis,
roseo-purpureis; sinu pallii lato, profundo, obtuso.
Var. β. Testa latiore, pallidiore, inaequaliter radiata.
Hab. Darnley Island.
Var. β. New Holland (Sydney); Moluccas.

33. **Psammobia abrupta**, Desh. *P. testa elongato-angusta, 
transversa, tenui, pellucida, aequilaterali, compressa, lutea, obso-
lete rubescente pauci-maculata, transversim regulariter costu-
lata, costulis obtusis, vix obquis, postice abrupte interruptis;
latere postico compreso, costulis radiantibus, simplicibus, latis
ornato, superne recto, ad extremitatem rotundatim truncato, 
margine inferiorem fere recto.


34. **Psammobia pulcherrima**, Desh. *P. testa minima*, elongato-
angusta, transversa, subaequilaterali, compressa, tenui, fragili, 
roseo-violacente, obsoleta albo radiata, intus pallide purpuracente, 
oblique transversim costata, costis simplicibus, depressis, 
supernae acutiusculis, ad latus posticum subito interruptis; latere 
postico costulis radiatis, squamoso-scapris ornato, marginibus 
paramper hiantibus, denticulatis; latere antico paulo 
longiore, supernae recto, parum declivi, postico latiore truncato; 
sinu pallii lato, profundo, tenui, ovali.

*Hab. *? Coll. Cuming.*

35. **Psammobia pennata**, Desh. *P. testa ovato-transversa*, 
compressiuscula, subaequilaterali, satis lata, albo-grisea, albo et 
rufo-rubescente irregulariter minute maculata, latere antico 
late rotundato, striis tenuissimis, perobliquis, regularibus 
abrupte terminatis, ornato; latere postico depressiusculo, angulo 
obtuso bipartito, striis distantioribus, in angulo regulariter 
divaricatis notato, parte superiore striarum ad marginem superiorem 
ascendentibus, parte altera ad marginem inferiorem incumbentibus, cum 
prioribus angulum acutum formantibus; cardine bidentato, altero unidentato.

*Hab. *? Coll. Cuming.*

36. **Psammobia dispar**, Desh. *P. testa ovato-transversa*, de-
pressa, tenui, fragili, inaequilaterali, pallide lutea, aliquantisper 
rufo irregulariter marmorata; latere antico longiore, lato, inferne 
convexo, striis tenuissimis, confertissimis, perobliquis ornato, ad latus posticum striis aliquidus acutissime angulosis, interruptis; latere postico brevi, attenuato, supernae recto, parum declivi, costis decem divergentibus, crassis, latis, fere horizontalibus ornato, angulum acutum cum striis posticalibus 
primis formantibus; cardine bidentato, altero unidentato, nym-
phis minimis, violaceis.


37. **Psammobia palmula**, Desh. *P. testa elongato-transversa*, 
angusta, depressa, arcuata, inaequilaterali, tenui, fragili, ob-
lique costulata, costulis antice minimis, postice latioribus, con-
tinuis, prominentibus, rotundatis, radiantibus, albo-lutescente, 
maculis minimis aliquidus rubris, sparisi; latere antico bre-
viore, supernae recto, antice obtuso, inferne arcuato; latere 
postico attenuato, oblique truncato, margine postico hiante, 
pliato, subdenticulato; nymphis intus violaceo maculatis; 
sinu pallii lato, apice late obtuso.

*Var. β. Testa angustiore, costulis postice interruptis, postica-
libus subsquamosis; strīis lirisve longitudinalibus in latere antico divergentibus.

_Hab._ New Holland, Sydney.

38. _Sanguinolaria vitrea_, Desh. *S. testa ovato-transversa, convexuscula, inaequilaterali, tenui, candida, vitrea, nitida, tenuissime et irregulariter striata; latere antico breviore, regulariter semicirculari; latere postico superne recto, via declivi, extremitate angustato, margine inferiore valde convexo, latere semicirculari; cardine angusto, in utraque valva inaequaliter bidentata, dentibus majoribus apice bifidis; sinu pallii superne valde producere, acute angulato, oblique descendente, et triangulum equilateralerem formante._


39. _Gastrochæna pupina_, Desh. *G. vagina crassa, brevi, clavata, transversim articulata, lævigata, nulla corpora aliena agglutinante, in cavitate valvules affixa. Testa minima, tenui, alba, hyalina, hiantissima, hiatu amplissimo quasi testa per medium partem resecto, oblique inaequaliter bipartita, coarctata, extremitate postica clausa, obtusa, attenuata; latere antico satis longo, incumbente, cucullato; umbonibus prominulis, oblique terminalibus; valvis lævigatis, postice sutura brevi, carinata; margine aperturae dorsali, parallelo._

_Hab._ Moreton Bay. Coll. Cuming.

40. _Gastrochæna apertissima_, Desh. *G. testa elongata, cuneiformi, inflata, tenui, fragili, per totam altitudinem testae antice inferneque hiantissima, alba, tenui, pellucida, antice brevissima, margine inferiore fere recto, posteriore obtuso, convexo, supereiore paulo obliquo; valvis tenuissime striatis, striis in latere antico transversalibus, in medio secundum lineam obliquam fractis, in area superiore armatis, pluribus majoribus, subæquidistantibus; ligamento angusto, elongato, nigrescente._


41. _Gastrochæna macroschisma_, Desh. *G. testa ovata, brevi, ventricosa, tenui, fragili, candida, antice hiantissima, hiatu subcordiformi, lato, obliquo, et fere totam altitudinem testae æquate; valvis trapezoidalibus, tenuissime striatis, striis in latere antico tenuissimis, appressis, in medio distantioribus, erectis, sublamellosis; latere postico obtuso, superne in sutura cristato; umbonibus tumidis, postice depressiusculis; latere antico brevi, recto; sinu pallii parum profundo, apice acuto, triangulare, subæquilaterali._


42. _Gastrochæna lævigata_, Desh. *G. testa ovato-cuneiformi, tenui, pellucida, fragili, candidissima, ventricosa, late hiante, hiatu cordiformi, dimidiam partem testae paulo superante; valvis lævigatis; latere antico striis aliquibus regularibus, ad median
partem arcuatis et evanescentibus; umbonibus minimis, obliquis, approximatis; latere antico brevissimo, recto.


43. Gastrochæna tenera, Desh. G. testa elongato-angusta, teneri, pellucida, compressiuscula, antice angusta, postice paulo latiore, subdilatata, antice apertissima, hiatus totam altitudinem aequante, lateraliter paulo sinuoso; valvis antice inaequaliter tenue striatis, in medio distanter arcuato-subplicatis; umbonibus tumidulis, subterminalibus; latere antico brevi, subhorizontali, in sutura cristato, et emarginato; sinu pallii magno, profundo, triangulari, apice acutissimo, basi lato.


44. Gastrochæna humilis, Desh. G. testa parva, elongato-ovata, tumida, teneri, alba, hyalina, fragili, apertura antica ovato-acuminata, dimidiam partem testae vic aequante, oblique secta et rectilinea; valvis subtrapezoidalibus, regulariter striato-sublamellosis, striis continuas, antice approximatis, in medio paulo distanterioribus et prominentioribus; umbonibus tumidulis, approximatis; latere antico brevissimo, in sutura cristato, parum obliquo; ligamento angusto, elongato, nigro.

Hab. Philippines, Zebu (Cuming). West Indies (Mus. Brit.).

45. Gastrochæna intersecta, Desh. G. testa ovato-oblonga, brevi, cuneiformi, teneri, fragili, candida, oblique hiante, hiatus ovato, acuminato, dimidiam partem testae aequante, valvis subspathulatis, antice angustis, postice dilatatis, striatis, striis anticus regularibus, extremitate detectis, aequidistantibus, arcuatis et in medio evanescentibus et medianis interpositis, striis medianis inaequalibus, majoribus distantibus; latere antico brevissimo, fere nullo; umbonibus minimis, subterminalibus.


46. Gastrochæna impressa, Desh. G. testa elongato-cuneiformi, subovata, inflata, antice inferneque amplissime aperta; hiatus totam longitudinem testae aequante, margine laterali oblique arcuato, antice angusto; valvis teneribus, subtrapezoidalibus, in medio sulco vic impresso bipartitis, parte antica tenue transversim striata, striis in sulco subfractus, parte postica arcuatis et irregulariter sulcato-striata, in latere postico striis oblique ascedentibus; umbonibus tumidulis, postice obtuse subangulatis, fere terminalibus; ligamento angustissime elongato, partim immisso.


47. Gastrochæna denticulata, Desh. G. testa ovato-ventricosa, brevi, solidula, lata, hiantissima, hiatus ovato, lato, inferne attenuato et tertiam partem posticam teste attingente; valvis subtrapezoidalibus, transversim striato-lamellosis, in latere antico striis imbricatis, crispato-denticulatis, in latere postico
erectis, distantioribus; latere antico satis elongato, recto, in sutura cristato; umbonibus tumidulis, subumbilicatis; ligamento angusto, elongato, fulvo.


48. GASTROCHEÄNA DIFFICILIS, Desh. G. testa elongato-transversa, ovata, cuneiformi, compressiuscula, oblique longe hiante, hiatu ovato-oblongo, inferne attenuato, fere totam longitudinem testae aequante; valvis trapezoidalibus, tenue striatis; striis tenuissimis, erectis, angustissimis, in latere antico confertioribus; umbonibus tumidis, subumbilicatis; ligamento angusto, elongato, rufo, angusto.

Hab. Western India. Coll. Cuming.

49. GASTROCHEÄNA LAMELLOSA, Desh. G. testa elongato-angusta, tenui, fragili, candida, hyalina, compressiuscula, longe hiante, margine antice paululum excavato, in medio concreto, hiatu longissimo, inferne valde attenuato, fere totam altitudinem testae aequante; valvis antice valde attenuatis, rostratis, postice obtusis, rotundatis, antice tenuissime striatis, striis erectis, appressis, in medio distantioribus, breviter lamellosus, elegantibus armatis, regularibus; umbonibus minimis, approximatis, subumbilicatis; latere antico brevissimo, recto; ligamento angustissimo, nigro.


50. GASTROCHEÄNA PHILIPPINENSIS, Desh. G. testa elongato-angusta, subovata, compressiuscula, tenui, alba, antice inferneque oblique hiante, hiatu ovato, inferne acuminato, dimidiis partem testae paulo superante; valvis tenue striato-lamellosis, striis arcuatissimis secundum peripheriam valvarum antice tenuibus, approximatis, in medio latioribus, sublamellosis; margine superiori postico paulo carinato; umbonibus minimis; latere antico brevi, recto, subrostrato.


51. GASTROCHEÄNA INDISTINCTA, Desh. G. testa ovato-elongata, angusta, cuneiformi, tenui, alba, oblique truncata, elongato-hiante, hiatu elongato, acuminato, angustiusculo, usque ad tertiam partem posticam testae attingente, transversim striata, striis antice tenuibus, regularibus, sublamellosis, erectis, in medio paulo distantioribus, et minus regularibus, in area postica tenuissimis; area postica elongato-angusta, angulo obtuso distincta; latere antico brevissimo; ligamento angustissimo, partim infosso, brevisculo.


52. GASTROCHEÄNA RUPPELLII, Desh. G. testa elongato-ovata, solidula, turgidula, candida, antice oblique hiante; hiatu ovato, lato, inferne attenuato, fere totam altitudinem testae aequante; valvis dense striatis, striis obtusis, antice satis regularibus,
appressis, in medio et latere postico distantioribus, irregularibus, obtusis; umbonibus tumidulis; latere antico brevi, recto, antice parum inflexo; ligamento prælongo, angusto.


53. Gastrochæna interrupta, Desh. G. testa elongato-angusta, convexiuscula, extremitatis fere æqualiter lata, per longitudinem quasi excisa, late aperta; hiatu longissimo, obtuso, oblongo, inferne vix acuto, et fere totam longitudinem testae æquante; valvis oculo nudo leavagitis, sub lente argutissime striatis, striis obsoletis, distantibus, subcontabulatis, interruptis; marginie inferiore recto, superiore fere parallelo; umbonibus minimis, subterminalibus; latere antico brevi, inclinato; ligamento angustissimo, brevi.


54. Gastrochæna spathulata, Desh. G. testa elongato-angusta, cuneiformis, compressiuscula, tenuis, fragilis, alba, antice longe hiante, hiatu fere totam longitudinem testae æquante, inferne sensim attenuata; valvis antice angustis, postice latoiibus, spathulatis, irregulariter striatis, striis lateris antici tenuioribus, magis regularibus, rectis, in medio rugulosis, arcatis, inaequalibus; umbonibus minimis, acutis, fere terminalibus; latere antico brevissimo; ligamento elongato, angusto, fuscescente; sinu pallii angustissimo, acuto, profundissimo, usque umbones versus ascendente.


55. Gastrochæna cucullata, Desh. G. testa elongato-cuneiformis, tenuis, alba, fragilis, subcretacea, extremitate antica brevissima, postice compressa, dilatata, spathuliformis, antice inferneque oblique hiante, apertura lateraliter coarctata, fere totam longitudinem testae æquante, latere antico angusto, incumbente, cucullato; valvis extus in tres areas divisis, prima antica obsolete striata, mediana latiore, irregulariter arcuatim striato-rugosa, tertia circa ligamentum angustiore, leavigata; umbonibus tumidulis, terminalibus; ligamento satis prominulo, elongato, fusco.


56. Gastrochæna plicatilis, Desh. G. testa elongato-ovata, tenuis, fragilis, pellucida, compressiuscula, longe hiante, postice truncata, hiatu maximo, elongato, totam altitudinem testae æquante, inferne sensim attenuata; valvis in tres areas divisis, una antica lata, transversim regulariter striata, striis tenuissimis, oblique sub lente striulatis, parte secunda oblique mediana, angusta, leavigata, postica pyramidata, prominentio, sulcis depressiusculis circumdata, transversim profunde sulcata, quasi scalariformis; area circa ligamentum planulata, elongato-lanceolata, ligamento crasso, elongato.

Hab. Philippines, Zebu.
57. CHÉNA AGGLUTINANS, Desh. C. vagina minima, elongato-clavata, postice valde attenuata, cortice valde et irregulariter transversim plicato, corpora aliena agglutinante. Testa elongato-angustissima, tenui, fragili, hiantissima, ad latus posticum vix paulo latiore, extus ut in Solenibus bipartita, parte altera superior, arcuatum striata, altera longitudinaliter tenuissime striata; latere antico brevissimo, abrupte truncato, angulo acuto circumscripto, radiatim tenuissime lirato, liris subgranulosis; impressione musculari postica paulo post mediana, minima; sinus pallii profundissimo, acutissimo.  

58. CHÉNA GRANDIS, Desh. C. vagina elongato-clavata, regulari, recta, transversim rugata, postice attenuata, subaeuletis in cortice agglutinante. Testa elongato-angusta, hiantissima, postice latiore, spatulata, ad latus anticum sensim attenuata; latere antico brevissimo, subito truncato et angulo acuto distincto, in medio valde carinato vel cristicato, radiatim inaequaliter sulcato, sulcis inaequalibus novem ad decem, quinque majoribus denticulo acuto terminatis; cardine lineari, simplex; impressione musculari postica in medio longitudinalis posita; sinus pallii profundo, acutissimo.  

59. CARDIUM SERRULATUM. C. testa suborbiculari, postice subangulata, equilaterali, convexituscula, tenui, fragili, alba, rufo irregulariter maculata, umbonibus acutis, oppositis, minimis, levigatis, violaceis, longitudinaliter tenue costata, costis quinque et quinquaginta, oblique denticulis brevisibus, acutis; lateraliter serrulata, in latere postico denticulis longioribus, marginibus tenue crenulatis; valvis intus albis, sub apice purpureo maculatis.  

60. CARDIUM GOSEII, Desh. C. testa orbiculari, turgida, sphéroidea, equilaterali, crocea, ad apices alba, longitudinaliter costellata, costis angustis, rotundatis, anticis unico ordine tuberculorum muricatis, medianis levibus, postremis depressis, muricato-duplicatis; umbonibus prominentibus, oppositis; valvis intus albis, aliquantisper vivide in medio croceis; marginibus lunulæ superne reflexis.  

61. CARDIUM BICOLOR, Desh. C. testa ovato-transversa, ventricosa, cordiformi, subaequilaterali, alba, latere postico subito castaneo nitente picto, latere antico dilute fuscescente, longitudinaliter costata, costis sex et viginti, planulatis, posticis levigatis, latioribus, anticis crenulatis, sequentibus liris obliquis, rugosisculis; umbonibus obliquis, prominentibus, acutis.  
62. Cardium hudsoniense, Desh. C. testa parva, rotundato-subtrigona, oblique inaequilaterali, compressinscula, tenui, fragili, squalide grisea, longitudinaliter costata, costis septem et viginti, antici transversim crenatis, medianis planis, fere obsoletis, posterioribus acutioribus, muricatis; umbonibus minus, parum obliquis; latere antico obtuso, rotundato, postico obtuso oblique subtruncato.


63. Cardium Cygnorum, Desh. C. testa longitudinaliter ovata, depressiuscula, parum obliqua, subinaequilaterali, albida, ad marginis lutea, ochraceo pallido irregulariter maculata, longitudinaliter costata, costis quadraginta duo, convexis, approximatis, anteriioribus crenulatis, medianis irregulariter impresso-crenatis, posterioribus minoribus, planulatis, crenato-duplicatis; umbonibus acutis, oppositis; lunula magna, ovato-lanceolata, levigata, excavata.


64. Cardium tumidum, Desh. C. testa longitudinaliter ovata, parum obliqua et inaequilaterali, turgida, cordiformi, crassa, solida, sub epidermide squalide fusca alba, intus dilute lutea, ad marginis alba, longitudinaliter costata, costis ad triginta, crassis, anticis depressioribus, regulariter liris arcuatissimis, medianis crassioribus, subangulatis, laterally oblique striatis, posticalibus obsoletis, planis, lineis impressis notatis; umbonibus magnis, prominentibus, oppositis, lunula magna, ovato-lanceolata, levigata, excavata.


65. Cardium gratiosum, Desh. C. testa longitudinaliter ovata, tumida, cordiformi, crassa, solida, subinaequilaterali, parum obliqua, purpurascence, fasciis irregularibus, transversis, saturatoribus ornata; latere postico albo, longitudinaliter costata, costis convexis, ad apices subangulatis, depressiusculis, anticis medianisque transversim crenatis, vel sublenticulatis, posterioribus depressis, planis, linea impressa separatis; umbonibus acutis, brevibus, oppositis; lunula elongata, lanceolata, levigata, concava, purpurea.

Var. b. Testa omnino simili sed luteo colore picta.


66. Cardium mauritianum, Desh. C. testa longitudinaliter ovata, equilaterali, non obliqua, convexa, cordiformi, alba vel flavescence, roseo-purpurascense gratissime et irregulariter maculata, intus alba, obsolete purpureo maculata, marginibus vivide purpureo maculatis, longitudinaliter costata, costis quatuor et quadraginta, convexis, depressiusculis, approximatis, primis anterrioribus tuberculatis, sequentibus crenulatis, medianis utroque lateri punctato-crenatis, posterioribus subimbricatis, spinulis brevibus obliquis arcuratis.

67. **Cardium festivum.** *C. testa rotundato-trigonoide, turgidula, crassa, æquilaterali, alba, nitida, eleganter sparsim lineaet et maculata, roseo-purpurascence antice posticeque maculis majoribus alternatis picta, longitudinaliter costulata, costulis obtusis, fere planis, simplicibus; latere antico declivi, obtuso, inferior parum convexo, postico declivi, subtruncato; umbonibus parvis, oppositis; epidermide peculiari vestita, cornea, transversim tenuissime et eleganter lineata et maculata, roseo-purpurascente antice posticeque maculis majoribus alternatis picta, longitudinaliter costulata, costulis obtusis; fere plants, simplicibus; latere antico declivi, obtuso, inferiore parum convexo, postico declivi, subtruncato; umbonibus parvis, oppositis; valvis intus vivide auranti-purpureis.


68. **Cardium lobulatum, Desh.** *C. testa longitudinaliter oblique ovata, depressiuscula, grisea, pallide rufa irregulariter lineata et maculata, nitide laevigata; latere postico obsolete sulcato, sulco ultimo profunde et lato, lobulo distincto; umbonibus parvis, violascentibus; valvis tenuibus, intus rubro-purpureis; marginibus tenuissime crenulatis.


69. **Cardium mirabile, Desh.** *C. testa orbiculati, tumido-sphæroidali, æquilaterali, vix oblique cordiformi, albo-rufescence, ad margines incarnata, longitudinaliter costata, costis sex et viginti, crassis, rotundatis, lateraliter convexis, et interstitiis profundis partim obtectisque; costis anticus spinis erectis, longiusculis asperatis; in costis medianis spinis in latere postico oblique ordinatis, in posticalibus spinis inter se confluentibus et laminam serratam formantibus; lunula magna, plana, alba, ovata; area convexuscula, elongata, inferne roseo tincta; latere postico ringente, modice hiante.


70. **Cardium æquale, Desh.** *C. testa cordiformi, lateraliter compressa, carina acuta, inferne simplice, obtusa, superne acuta, brevi, denticulata, æqualiter bipartita, albo-lutescente, postica pallide aurantia, intus eodem colore tincta, longitudinaliter costata, costis in latere antico æqualibus, parum prominentibus, superne obsolete tuberculosis, in latere postico inæqualibus; umbonibus valde carinatis, revolutis, oppositis; lunula ovata, lævigata; area ligamenti subcordata, elongata, effossa.

*Hab.* —?

71. **Cardium debile, Desh.** *C. testa ovato-transversa, compressa, fragili, sublenticulari, inæqualiteri, longitudinaliter tenuissime costata, costis tribus et quadraginta, albicante, pallide aurantio irregulariter maculata; latere antico semicirculari, postico paulo longiore et lato, costis anticus et medianis tenuissimis, planulatis, posticalibus duabus latissimis, planis, alteris elatioreibus, squamoso-spinosis; costis anticus tenue crenulatis, medianis lævigatis; marginibus antice posticeque hianteis.

72. Cardium transversale, Desh. C. testa minima, ovato transversa, valde inaequilaterali, convexiuscula, longitudinaliter costata, costis 23, antice et in medio angustis, planiusculis, simplibus, arguissimem transversim striatis, posticis multo majoribus, convexis, ultimis superioribus tribus squamulis erectis armatis; latere antico albo, postico castaneo, costis albo-subarticulatis; colore intus repetito.

Hab. Alboran.

73. Cardium Fabricii, Desh. C. testa ovato-transversa, oblique cordiformi, turgida, tenui, levigata, antice posticeque obsolete impresso-sulcata, squalide grisea, ochraceo maculata; latere antico brevi, lato, semicirculari, postico superne declivi; umbonibus prominentibus, obtusis, oppositis; valvis tenuibus, intus albis, squalide lutescentibus; cardine angusto, dentibus cardinalibus lateralisque validioribus quam in Cardio Grcenlandico.


Hab. Greenland.

74. Cardium productum, Desh. C. testa lateraliter cordiformi, oblonga, latere postico plano, concaviusculo, in medio prominenti; latere antico conoideo, producto, infra lunulam altiorem, albo-lutescentem, maculis albis, praecipe in latere postico eburneis, satis regulariter marmorata; carina marginalis acuta, denticulis brevibus, regularibus armata; costis longitudinalibus decem in latere antico, superne granulis acutiusculis armatis, undecim in latere postico inaequalibus, quorum duo tresve superioribus squamosis; umbonibus acutis carinatis, oppositis, revolutis.

Hab. Torres Straits. Coll. Cuming.

75. Cardium scruposum, Desh. C. testa parva, subquadrangulari, subaequilaterali, turgida, cordiformi, candissima, angulo acuto, obliquo inaequaliter bipartita; latere antico longiore, rotundato, margine inferiore subrecto, posteriore alto, rectilineari, cum inferiore angulum subrectum formante, margine superiore postico recto; longitudinaliter costata, costis crassis, nodosis, quatuor et viginti, quorum quindecim in latere postico, nodulis per ordines transversales digestis; costulis posterioribus paululum minoribus.


76. Cecella turgida, Desh. C. testa ovato-transversa, subaequilaterali, turgida, inflata, tenuissime obsolete striata, epidermide pallide flavescente, postice irregulariter plicata vestita, albo flavescente, intus candida; latere antico paulo breviore, late rotundato, postico paulo attenuato, subtruncato; umbonibus latis, depressiusculis, oppositis, approximatis, apice acutis; cardine angustissimo; fossula minima, brevi, angusta, non obliqua; dente cardinali parvo, acuminato, lateralis brevibus, marginalibus fere obsoleteos; sinu pallii brevi, triangulare, apice obtuso.

77. **Cæcella zebuensis**, Desh. *C. testa ovato-subtrigona, compressuscula, tenui, subaquilatrali, transversim obsoletae et irregulariter striatae, alba, epidermide flavicante vestita; latere antico breviore, late obtuso, non declivi, latere postico equaliter obtuso, margine inferiore regulariter arcuato; cardine solidato, satis lato, fossula parum obliqua, acuminata, paulo prominente, dente cardinali compresso, acuminato, apice canaliculato, dentibus lateralisbus inæqualibus, antico valvæ sinistre obsoletae; sinu pallii lato, brevi, subtrigono.**


78. **Cæcella cumingiana**, Desh. *C. testa ovato-transversa, turgida, inæqualitrali, transversim inæqualiter striata, alba, sub epidermide flavescente irregulariter striata, crispa, postice sublamellosea; latere antico breviore, obtuso, superne declivi, postico paulo magis attenuato, equaliter declivi, margine inferiore regulariter arcuato; umbonibus prominentibus, acuminatis, oppositis, acutis; fossula valde basi producta, postice obliquata, acuminata; dente cardinali depresso, dentibus lateralisbus fere nullis; sinu pallii lato, apice obtuso, subtrigono.**


79. **Cæcella chinensis**, Desh. *C. testa ovato-transversa, convexiuscula, solida, aquilatrali, epidermide fuscescente, decidua vestita, albo-cornea, transversim inæqualiter striata; latere antico paululum longiore, declivi, obtuso, postico superne convexiusculo, latiore, obtuso, margine inferiore fere recto; umbonibus minimis, vix prominentibus, acutiusculis; cardine crasso, satis lato, dente cardinali compressissimo, lamellari, fossula profunda, vix obliqua, basi oblique truncata; dentibus lateralisbus angustis, acutis, antico brevi; sinu pallii brevissimo, angusto, triangulari.**


80. **Cæcella convexa**, Desh. *C. testa ovato-transversa, convexa, crassa, solida, aequalitrali, subsymmetrica, transversim obsoletae inæqualiter striatae, albo flavidula, sub epidermide decidua, tenui, pallide flavescente; latere antico superne paululum declivi, late obtuso, postico superne convexiusculo; margine inferiori regulariter arcuato; cardine crasso, lato; fossula basi acuminata, producta; dente cardinali compresso, apice sulco impresso bipartito, dentibus lateralisbus inæqualibus, parum obliquis, antico minore, brevi; sinu pallii minimo, angusto, brevi, semielliptico.**

*Hab.* ——? Coll. Cuming.

81. **Cæcella lata**, Desh. *C. testa ovato-subtrigona, convexiuscula, solida, aequalitrali, subsymmetrica, alba, sub epidermide tenui, flavescente, transversim tenuae, obsoletae et inæqualiter striatae; latere antico et postico aequaliter declivibus, obtusis, margine inferiori regulariter arcuato; umbonibus minimis, acutis, oppositis, approximatis; cardine lato, crasso, fossula ad latus posticum parum obliqua, profunda, basi producta, acuminata, dente cardinali
compreso, apice leviter sulcato, dentibus lateralibus inaequalibus, parum obliquis, antico minore, cardine adnato; sinu pallii minimo, brevi, angusto, subtriangulari.


82. Cecella Horsfieldii, Gray. C. testa transversa, ovato-subtrigona, turguidula, tenui, fragili, equilaterali, transversim inaequaliter tenue striata, epidermide flavo-rufescente vestita, alba; latere antico lato, superne recto, margine inferiore fere parallelo, late obtuso; latere postico attenuato, superne declivi, extremitate obtuso; umbonibus minimis, acutis, oppositis; dente cardinali angusto, compresso, sulco longitudinali partito, dentibus lateralibus inaequalibus, angustis, brevibus, subaequalibus; fossula profunda in cavitate valvarum defixa, basi valde prominent et acuta; sinu pallii angusto, obtuso, profundo, horizontali.

Hab. Madras.

83. Cecella transversalis, Desh. C. testa elongato-transversa, ovato-acuminata, equilaterali, compressiuscula, irregulariter obsolete transversim striato-sulcata, squallide alba, sub epidermide rufescente, postice irregulariter plicata; latere antico elongato, obtuso, margine superiore recto, inferiori parallelo; latere postico attenuato, superne declivi, margine inferiore fere recto; cardine angusto, fossula paulo obliqua, valde basi prominent et acuta, angusta, profunda, dente cardinale compresso, acuto, canaliculato, dentibus lateralibus divericatis, marginalibus antico minore; sinu pallii angusto, obtuso, profundo, semielliptico.

Hab. ——? Coll. Cuming.

84. Cecella oblonga, Desh. C. testa ovato-transversa, convexiuscula, elliptica, inaequaliteri, tenui, fragili, transversim tenue striata, alba, sub epidermide fulva, irregulariter tenue striata, in latere postico tenue plicata; latere antico paulo breviori, atque postico aequaliter obtusis, superne declivibus; margine inferiore fere recto; cardine angusto, fossula angusta, profunda, basi producta, oblique truncata, dente cardinale apice bifido, dentibus lateralibus subaeminalibus, brevibus, angustis, antico vix perspicuo; sinu pallii angusto, satis profundo, obtuso, horizontali.


85. Cecella zelandica, Desh. C. testa elongato-transversa, elliptica, convexiuscula, solidula, inaequaliteri, transversim striata, epidermide flavescente vestita, albo-pellucida, utroque latere aequaliter obtusa et declivi; latere antico breviori; margine inferiori paululum arcuato; dente cardinali compresso, triangulari, acuminato, prominenti; fossula angusta, profunda, obliqua, basi acuminata; dentibus lateralibus angustis, inaequalibus, antico brevi; sinu pallii profundo, lato, subtrigono, apice obtuso.

86. Cæcella tenuis, Desh. C. testa ovato-transversa, elliptica, subæqualiter, convexiuscula, tenui, transversim tenuissime striata, alba, hyalina, epidermide flavescente vestita, extremitatisæqualiter obtusa; latere antico paulo brevior et angustiore, postico superne convexiusculo; margine inferiori recto; cardine angusto, fossula minima, obliqua, angusta, basi parum prominente, dente cardinale angusto, triangulare, apice bifido, dentibus lateralis marginalibus compressis, inæqualibus, antico parvulo, brevi; sinu pallii lato, non profundo, obtuso.

87. Mesodesma crassula, Desh. M. testa orbiculato-trigona, compressa, valde inæqualiter, inæqualiter substriata, sub epidermide nitente, pallide flavescente alba; latere antico lato, elongato, obtuso, superne convexiusculo, declivi; latere postico brevi, lato, obtusissimo, semicirculari; umbonibus minimis, acutis, prominentibus; cardine brevi, lato, solido, fossula angusta, profunda, basi vix prominente, dente cardinale oblongo, in utroque latere fossulae dentibus lateralibus validis, antico longiore, postico valvulæ dextre conico, crasso, pyramidalis, acuminato; impressione pallii simplici.

88. Mesodesma ovalis, Desh. M. testa transversa, regulariter elliptica, æqualiter, compressa, ad margines acuta, lævigata, nitida, alba, sub epidermide stramineo-viridescente, zonula ad peripheriam nigra, infucata; latere antico et postico æqualiter obtusis, superne paululum declivius; cardine angusto, fossula lata, profundaque, dentibus lateralis validis, antico longiore, postico valvulæ dextre conico, crasso, pyramidalis, acuminato; impressione pallii simplex.

89. Mesodesma mactroides, Desh. M. testa elongato-transversa, ovato-trigona, inæqualiter, alba, hyalina, tenui, nitidissima, utroque latere hiantes, transversim tenuissime inæqualiter striata; latere antico multo longiore, semielliptico, obtuso, attamen sensim attenuate, superne inferneque æqualiter convexiusculo; latere postico oblique declivi, subtruncato; cardine angusto, fossula mediana, lata, parum profunda, basi præminente, dentibus lateralis valde divergentibus, marginalibus compressis, lamellosis, triangularibus, acuminitatis; sinu pallii profundo, angusto, apice obtuso acuminato.
Hab. ——? Coll. Cuming.

90. Mesodesma transversa, Desh. M. testa transversa, elongata, subæqualiter, cuneata, lævigata, compressa, utroque extremitate obtusa, carneo-flavescente, transversim obsolete striata; latere antico paulo longiore, superne declivi, postico convexo, declivi, obtuso, margine inferiore fere recto; umbonibus minimis, productiusculis, acutis; cardine crasso, lato, dentibus
validis tribus, altero duobus, laterali antico elongato, fossula profundissima, angusta, basi non producta; sinu pallii angusto, satis profundo, semiovali, horizontali.

Var. β. Testa minore, corneo-fusca.


91. **Mesodesma angulum**, Desh.  *M. testa elongato-trigona, compressa, cuneiformi, maxime inaequilaterali, nitidissima, alba, eburnea; latere antico proelongo, late obtuso, superne recto, vix declivi, cum postico brevissimo angulum acutum formante; umbonibus minimis, acutis, terminalibus; cardine crassiusculo, postice brevissimo, fossula angustissima, profunda, basi producta, parum obliqua; dente lateralii antico elongato, crasso, postico brevi, acuminato, angusto; sinu pallii lato, oblique semicirculari.*


92. **Mesodesma lanceolata**, Desh.  *M. testa valde transversa, elongato-trigona, maxime inaequilaterali, cuneata, lanceolata; latere antico maximo, acuminato, superne concaviusculo, inferne vix convexiusculo; latere postico crassiore, sub angulo fere recto subito truncato, ad umbones angulato, angulo inferne evanescente; umbonibus acutis, angustis, subterminalibus, oppositis; latere postico irregulariter plicato; fossula cardinalii brevi, late trigona, antice obliquata; dentibus lateralis inaequalibus; antico elongato, compresso, cardine remoto; sinu pallii lato, profundo, semieliptico; valvis albo-flavis, nitidissimis.*

Hab. Western Australia. Coll. Cuming.

93. **Mesodesma heterodon**, Desh.  *M. testa transversa, trigona, compressa, inaequilaterali, nitida, obsoletissime striata, corneo-fuscescente; latere antico elongato, obtuso, superne convexiusculo, postico brevi, acuminato, declivi, truncato, sepius irregulariter plicato; cardine angusto, tridentato in valvula sinistra, bidentato in altera, fossula angusta, profunda, antice obliquata, dente laterali antico elongato, cardine remoto, postico magno, conico, acuto, trigono, acuminato; sinu pallii brevissimo, angustissimo, semi-ovali.*

Hab. Western Australia. Coll. Cuming.

94. **Mesodesma elongata**, Desh.  *M. testa elongato-transversa, compressa, nitida, cuneiformi, valde inaequilaterali, corneo-flavescente, zonulis saturatioribus angustis interrupta; latere antico proelongo, late obtuso, superne recto, vix declivi, margine inferiore parum convexo; latere postico obtuso, oblique declivi, brevi, inferne angulato; umbonibus minimis, oppositis, fere nullis; cardine solidulo, fossula angusta, profunda, ad latus anticum obliquata; sinu pallii lato, brevissimo, subsemicirculari.*

Hab. Torres Straits. Coll. Cuming.

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95. Mesodesma angusta, Desh. *M. testa elongato-angusta, compressa, cuneiformi, valde inaequilaterali, polita, nitida, corneo-fusca; latere antico longissimo obtuso, superne lente declivi; latere postico brevissimo, obtuso, truncato, inferne subangulato; cardine angustissimo, fossula angusta profundaque, antice valde obliquata, dente laterali antico angusto, prælongo, postico brevi, conico, acuto; sinu pallii brevi, lato, semicirculari; valvis tenuibus, fragilibus.*


96. Mesodesma nitida, Desh. *M. testa transversa, subtrigona, valde inaequilaterali, compressa, cuneiformi, laevigata, epidermide cornea, nitente vestita, intus alba; latere antico longissimo, obtuso, parum attenuato, antice inferneque acuto; latere postico brevi, oblique truncato, ad extremitatem inferiorem angulato, area lunulaque nullis; cardine angusto; fossula angusta, profunda, antice obliquata, basi prominenti, truncata, dente laterali antico elongato, angusto, cardine satis remoto; impressione pallii brevi, sinu brevi, angusto, oblique semicirculari.*


97. Mesodesma præcisa, Desh. *M. testa transversa, subtrigona, crassa, solida, valde inaequilaterali, alba, nitente, ochraceo dilute tincta, inæqualiter obsolete striata; latere antico prælongo, late obtuso, margine superiore inferiorique fere parallelis; latere postico oblique truncato, obtuso; umbonibus minimis, acutis, vix prominentibus; cardine lato, crasso, solido, fossula angusta, profunda, basi prominenti, dentibus lateribus crassis, latis, depressis, obtusi; sinu pallii minimo, angusto, brevi, subtrigono.*


98. Mesodesma retusa, Desh. *M. testa brevi, transversa, compressa, maxime inaequilaterali, transversim minutissime striata, albo-flavescente, sub epidermide squalide fucscense; latere antico prælongo, obtusissimo, margine superiore inferiorique rectis, parallelis; latere postico obtuso, perpendiculariter truncato, tantisper convexo; cardine angustissimo, fossula minima, angusta, basi acuto-prominente, dente cardinali obsoleti, dentibus lateribus æqualibus, in valvula dextra prominentioribus; musculorum cicatriculis minimis; impressione pallii simplice.*


99. Mesodesma intermedia, Desh. *M. testa ovato-trigona, subtransversa, crassa, solida, valde inaequilaterali, postice oblique truncata, squalide albo-flavida, transversim irregulariter striata, striis paululum undulatis, in latere postico profundioribus; latere antico obtuso, superne convexiusculo, declivi, postico brevissimo, oblique truncato, inferne subangulato; car-
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dine lato, crasso, fossula angusta, profunda; dentibus lateralibus crassis, subaequalibus, prominentibus, acuminis; sinu pallii parvulo, angusto, brevi, oblique semicirculari.


100. Mesodesma macrondon, Desh. M. testa minima, trigona, subtransversa, inaequilaterali, depressa, in medio convexiuscula, squalide albo-flavescente, transversim sulcata, sulcis irregulabilirubus, approximatis, convexis, antice attenuatis, postice paulo eminentioribus; latere antico longiore, obtuso, superne declivi, postico obtuso, brevi, declivi; umbonibus minimis, acutis, brevibus; cardine lato, crasso; fossula sulciformi, profunda; dentibus lateralibus validis, subaequalibus, in utraque valva prominentibus; sinu pallii brevissimo, minimo, oblique subsemicirculari.


101. Mesodesma layardi, Desh. M. testa trigona, crassa, turgida, inaequilaterali, ad umbones pallide violacea, zonulis angustis aliquibus saturioribus, valvis intus nitide pallideque violaces, transversim obsolete striato-rugata, postice irregulatissim pricata; latere antico paulo longiore, superne convexiusculo, declivi, inferne convexo, extremitate obtuso; latere postico obtuso, depresso, subplano, recto, valde declivi, inferne subangulato; cardine lato et crasso, dentibus, praecipue antiscis, prominentibus, compressis, fossula angusta, profunda; sinu pallii minimo, angusto, obtuso triangulari.

Hab. Ceylon.

102. Mesodesma mitis, Desh. M. testa ovato-trigona, transversa, turgidula, crassa, solida, subaequalitri, transversim obsolete et inaequaliter striata, nitida; latere antico paulo longiore posticoque rectis, declivibus, equaliter obtusis, margine inferiore regulariter convexo; cardine crasso, fossula profunda, basi non prominente, dentibus validis, postico valvae dextre majore, valde prominenti, trigono, compressiusculo; sinu pallii minimo, brevissimo, trigono, apice acuto.


103. Mesodesma sulcata, Desh. M. testa trigona, subtransversa, subaequalitri, crassa, solida, in medio convexiuscula, apice acuminata, squalide albo-flavicante, transversim regulariter sulcata, sulcis latis, convexis, depressis, approximatis, ad apicem evanescentibus, postice alternatim interruptis; latere antico obtuso, atque postico equaliter rectis et declivibus, margine inferiore parum convexo; latere postico parum convexo, sulcis minus regularibus; cardine crasso, fossula angusta, profunda; dentibus lateralis grasis, postico maximo, triangulari, valde prominenti; sinu pallii satiis lato, brevissimo, ovato-triangulari.


104. Heterocardia Cumingii, Desh. H. testa ovato-trans-
versa, compressa, tenui, fragili, subaequilaterali, in medio convexiuscula, alba, transversim inaequaliter striata; latere antico paulo longiore, late rotundato, margine superiore antico recto, horizontali, inferiori parallelo; latere postico arcuatim truncato, hiante, inferne subangulato; umbonibus minimis, vix prominulis; cardine angusto, fossula non obliqua, mediana, parum basi prominente, lamina cardinali angusta, canaliculata.


105. HETEROCARDIA GIBBOSULA, Desh. H. testa ovato-transversa, subtrigona, convexiuscula, subaequilaterali, omnino alba, transversim inaequaliter striata, in medio turgidiore, postice compressa, subito arcuatim truncata, hiante, superne gibbosula; latere antico angustiore, paulo longiore. superne declivi, antice obtuso, margine inferiore recto; fossula magna, non obliqua, valde prominente; lamella cardinali antice posticeque profunde canaliculata; sinu pallii profundo, superne latiore.


106. HETEROCARDIA FARAGELLA, Desh. H. testa minima, ovato-transversa, convexiuscula, aequilaterali, in medio convexa, gibbosula, postice depressiuscula, omnino alba, transversim irregulariter striata; latere antico lato, obtuso, superne parumper declivi; latere postico arcuatim truncato, hiante, inferne obtuse subangulato; margine inferiore recto; cardine angusto, fossula non obliqua, profundiussula, basi parum prominente; lamina cardinali angusta, canaliculata, angulum inferiorem versus prolongata; sinu pallii profundissimo, usque impressionem musculararem antici attingente; umbonibus minimis, depressis, vix prominentibus.


107. CYRENELEA SPHERICULA, Desh. C. testa orbiculari, gibosa, subspheirica, inaequaliter, tenui, fragili, sub lente tensissime striata, alba, sub epidermide griseo-lutescente, tenuissima, striato-reticulata; latere antico brevi, obtuso, postico rotundato; umbonibus tumidis, approximatis; valvis tenuibus, intus albis; cardine angustissimo, utroque latere bidentato, dente antico valvula sinistra porrecto, profunde fiso; impressionibus musculari-bus angustis, marginalibus.

Hab. Moreton Bay.

108. CYRENELEA PHILIPPINARUM, Sow. MSS. C. testa suborbiculari, turgida, cordiformi, tenui, inaequaliter, epidermide decidua, tenui, flavescente vestita, in latere postico fuscescente, albo irregulariter striata; latere antico breviore, superne declivi, in medio obtuso; parumper attenuato; latere postico multo latiore, angulato; area magna, in medio prominente, angulo circumdata; umbonibus tumidis, prominentibus, cordatis, approximatis; ligamento angusto immerso; cardine obliquo, angusto, inaequaliter bidentato, dente postico valvulae dextrae lato, bilobato.

109. **Cyrenella moretonensis**, Desh. *C. testa orbiculato-ovata, tumida, cordiformi, inaequilaterali, transversim inaequaliter striata, incrementi irregulariter contabulata, epidermide squalide fusca, striata, decidua vestita; latere antico paulo breviore, obtuso, superne declivi, attenuato, postico latiore, obtuse angulato; area lata, angulo obtuso circumscripta; umbonis tumidis, oppositis, prominentibus; cardine angusto inaequaliter bidentato; valvis tenuibus, intus lutescentibus.*


110. **Cyrenella oblonga**, Sow. MSS. *C. testa ovato-transversa, turgida, inaequilaterali, albo-flavescente, sub epidermide decidua, tenui, flavescente, transversim striato-sulcata, sulcis inaequalibus, obsoletissimis; latere postico obtuse angulato, area magna, angulo circumscripta, in medio carinato-elevata; umbonis brevibus, obliquis, approximatis; ligamento angusto, infosso; latere antico paulo angustiore, breviore, obtuso, postico late truncato; cardine angustissimo dentibus primariis minimis, inaequalibus, in utraque valva majoribus, bifidis.*


111. **Cyrenella senegalesis**. *C. testa orbiculari, depres-siuscula, lenticulari, tenui, fragili, irregulariter et dense striata, sub epidermide virescente, lamellosa et reticulata squalide fuscescente; umbonis tumidis, acutis, approximatis; latere antico late obtuso, semicirculari, breviore, postico paulo angustiore; cardine angusto, in valva dextra dentibus tribus, divergentibus, mediano interposito, in valva sinistra dente unico angustissimo, lamelloso, elongato, adjecto altero posticali, brevissimo; valvis intus albo-ceruleis.*


112. **Cyrenella lenticularis**. *C. testa orbiculari, convexiuscula, tenui, fragili, inaequilaterali, lenticulari, sub epidermide viridi-fuscescente transversim lamellosa-reticulato, albo-carulescente; latere antico breviore; lunula magna, linea albuscente, obsolete prominent circumscripita; cardine angustissimo, dentibus cardinalibus duobus in valva dextra, unico in sinistra; dentibus compressissimis, minimis, obliquis; ligamento angusto, elongato, partim immerso.*

*Hab. ——? Coll. Cuming.*

113. **Cyrenella pisiformis**. *C. testa orbiculari, inflata, sphe-roidali, tenui, fragili, subaequilaterali, sub lente tenuissime striata, sub epidermide pallide straminea alba, latere antico angustiore, breviore, rotundato, postico late rotundato; cardine angusto, bidentato, dentibus inaequalibus, majoribus bifidis; cicatricibus muscularum longissimis, submarginalibus; umbonis tumidis, prominulis, obtusis, fere oppositis.*

114. Sphèreum Novë-Zelândë. S. testa ovato-transversa, æquilaterali, compressa, nitidissima, pellucida, griseo-cærulescente, saturatiore irregulariter transversim zonata; latere antico obtuso, parum declivi, postico latiore, rotundato, margine inferiori convexo; umbonibus minimis, obtusis, vix prominentibus; ligamento minimo, inconspicuo; cardine angustissimo, bidentato, dentibus exiguis, lateralis parvis, antico paulo majore. 

Hab. New Zealand; New Holland.

115. Sphèreium indicum, Desh. S. testa ovato-rhomboidea, tumidula, æquilaterali, tenui, pellucida, albo-grisea; latere antico late rotundato, postico obtuse truncato; umbonibus tumidis, parum prominentibus; cardine obsolete bidentato, dentibus candidis, lateralis parvis, antico paulo majore, trigono, acuto, postico paulo breviore; muralvalvis sub lente tenuissime striatis.

Hab. Indian rivers.

116. Corbicula squalida, Desh. C. testa ovato-transversa, subtrigona, subæquilaterali, tenui, turbidula, utrique extremitate obtusa, transversim sulcata, sulcis irregularibus, distantibus, aliquando interruptis, postice anticeque sæpius evanidis, epidermide viridi, fusco-atrata, squalide irregulariter maculata, lineolis capillaceis, undulatis, longitudinalibus ornata; umbonibus tumidis, integratis, latigatis, valvis intus violaceo-vinosis; cardine angusto, tridentato, altero bidentato; dentibus exiguis, lateralis angustis, æqualibus, striato-serrulatis.

Hab. —? Coll. Cuming.

117. Corbicula incrassata, Desh. C. testa ovato-trigona, valde inæquilaterali, crassa, solida, cuneiformi, transversim dense striata, epidermide atro-viridi vestita; latere antico brevi, valde declivi, obtuso, postico subangulato; margine inferiori parum arcuato; umbonibus tumidis, oppositis, sæpius erosis; cardine incrassato, tridentato, dentibus cardinalibus subparallelis, lateralis densissime et argute striatis, antico paulo breviore.

Hab. —? Coll. Cuming.

118. Corbicula obscura, Desh. C. testa ovato-suborbiculari, depressiuscula, subæquilaterali, extremitatis æqualiter obtusa, transversim irregulariter striata, striis antice profundioribus, epidermide atro-virescente vestita; cardine tridentato, dentibus æqualibus, divergentibus, lateralis brevibus, angustis, antico paulo longiore; impressione pallii postice sinuosa, sinu brevissimo, lato.

Hab. —? Coll. Cuming.

119. Corbicula convexa, Desh. C. testa orbiculato-cordiformi, globulous, inæquilaterali, crassa, solida, viridi-olivacea, tenuissime et irregulariter striata, ad umbones laevigata, antice breviore; umbonibus tumidis obtusis, oppositis; valvis solidiusculis, intus albis; cardine inæqualiter tridentato, dente mediano valvulæ dextra bifido, dentibus lateralis subæqualibus, angustis, tene
et breviter crenulatis; impressione pallii postice sinu parvulo, trigono terminata.

_Hab._ Central America.

120. **Corbicula obsoleta**, Desh. _C. testa ovato-trigona, obliqua, tumidula, inaequilaterali, solidiuscula, transversim irregulare striato-sulcata, epidermide olivacea vestita, zonulis obscurioribus interrupta, utroque latere declivi, antice lata, breviore, obtusa, postice subangulata; umbonibus prominentibus, obliquis; cardine angusto, dentibus cardinalibus tribus, minimis, subparallelis, dentibus lateralis angustis, aequalibus, antico arcuato; valvis intus vivide violaceis.

_Hab._ Uruguay. _Coll._ Cuming.

121. **Corbicula semisulcata**, Desh. _C. testa transversa, ovato-subtrigona, inaequilaterali, tumidula, solidiuscula, transversim incremento irregulariter substriata, antice regulariter sulcata, epidermide aequali virescente vestita, aliquando zonulis transversis nigrescentibus interrupta, intus profunde violacea; cardine tridentato, dentibus fere aequalibus, lateralius validis, brevis, postico cardine remoto; sinu pallii postico brevi, angusto, triangulari, acuto.

_Hab._ Victoria River, Australia. _Coll._ Cuming.

122. **Corbicula ovalina**, Desh. _C. testa ovato-transversa, subaequilaterali, tenui, subventricosa, epidermide viridi vel nigrescente vestita, sulcis latis, ad latus posticum evanescentibus exarata; latere postico paulo longiore; cardine angusto, dentibus cardinalibus valde divergentibus, inaequalibus, lateralius brevis, antico paulo longiore, postico in medio prominentiore, utroque latere dense striato, cardine remoto.

_Hab._ Port Essington. _Coll._ Cuming.

123. **Corbicula tumida**, Desh. _C. testa regulariter ovato-transversa, tumida, tenui, subaequilaterali, postice paulo longiore, utroque extremitate aequaliter obtusa, epidermide viridi, nitente vestita, transversim sulcata, sulcis valde distantibus; umbonibus parvis, turgidulis, integris; cardine angustissimo, dentibus cardinalibus tribus, angustis, inaequalibus, valde divergentibus, lateralibus angustissimis, arcuatissimis, argute crenulato-striatis.

_Var._ β. Testa juniore, epidermide glaucescente, valvulis intus exatusque fusco trimaculatis.

_Hab._ Borneo. _Coll._ Cuming.

124. **Corbicula malaccensis**, Desh. _C. testa ovato-transversa, subtrigona, inaequilaterali, turgidula, solidula, epidermide glaucescente vestita, transversim regulariter et tenue sulcata, extrematibus obtusa, latere antico longiore; cardine angusto, tridentato, altero bidentato; dentibus lateralibus angustis, tenuissime striatis, antico longiore; valvis intus albis, vel pallide violaceo tinctis.

_Hab._ Malacca. _Coll._ Cuming.
125. Corbicula grandis, Desh. *C. testa orbiculato-trigona, solida, tumidula, inaequalaterali, transversim irregulariter rugosa, antice sulcis magis regularibus exarata, latere antico breviore, late arcuato, postico magis attenuato, epidermide nitidissimo, nigrescente vestita, ad margines flavescente, postice squamosa; valvis intus pallide flavis; cardine incrassato, trigonato, dentibus approximatis, lateralibus brevibus, crassis, irregulariter striato-denticulatis.


127. Corbicula trigona, Desh. *C. testa trigona, aequalaterali, compressisscula, antice paulo latiore et obtusiori, utroque latere aequaliter declivi, transversim tenue et regulariter striata, epidermide viridi, nitente induta, intus pallide violacea; umbonibus minimis, brevibus, acutis; lunula ovata, angulo obsolete circumscripta, pallida, levigata; cardine angusto, bidentato, altero tridentato; dentibus lateralibus equalibus, tenuissime striatis, antico leviter arcuato.


128. Corbicula striatella, Desh. *C. testa ovato-transversa, depressisscula, subaequalaterali, extremitatibus aequaliter obtusa, transversim regulariter lirata, liris ad latus posticum evanescentibus, epidermide pallide virescente, nitida vestita, intus atro-violacea; umbonibus brevibus, atro-violascantibus, pallidiore biradiatis; cardine angusto, tridentato, dentibus inaequalibus, divaricatis, postico longiore et angustiore, dentibus lateralibus elongatis, angustis, subaequalibus, arcuatissimis, tenuissime striatis.


129. Corbicula bengalensis, Desh. *C. testa ovato-subtrigona, depressisscula, tenui, subaequalaterali, obsolete transversim striata, striis regularibus, distantibus, epidermide flavescente, nitidissima, intus alba, in medio macula rubescence notata; umbonibus minimis, acutis; cardine angusto, tridentato, altero bidentato; dentibus lateralibus angustissimis, argytre striatis.

130. Corbicula Bensoni, Desh. C. testa ovato-transversa, subtrigona, æquilaterali, laevigata, nitida, depressissimula, extrematibus obtusa, utroque latere æqualiter declivi, epidermide tenui, nitente, virescente vel flavescente induta, aliquidus lineis interruptis, fuscis radiata, intus alba, vel pallide violascens; cardine angusto, tridentato, dentibus inæqualibus valde diuariatis, dentibus lateralis protractis, angustissimis, tenuissime striato-crenatis, antico paullo longiore.

131. Corbicula ambiguæ, Desh. C. testa ovato-trigona, æquilaterali, subcordiformi, transversim dense striato-sulcata, striis regularibus, antice posticeque evanescentibus, epidermide nigro-virescente vestita, in latere postico tenuissime striato-lamellosa, intus violacea; umbonibus angustis, prominentibus, antice obliquatis; latere antico atque postico æqualiter concausculis, declivibus, obtusis; cardine angusto, dentibus tribus primariis inæqualibus, brevibus, simplicibus, antico valva extrâ dente laterali adnato, dentibus lateralis æqualibus, longis, extremitate inferiori leviter arcuatis, crenulato-striatis.
Hab. Euphrates.

132. Corbicula triangularis, Desh. C. testa trigona, æquilaterali, alta, tumidula, solida, epidermide fuscescente vestita, transversim irregulariter striato-rugosa, utroque latere æqualiter declivi; umbonibus prominentibus, violaceo-lividis vel roseis, violaceo subradiatis; valvis intus superne rubescentibus, ad margines violaceis; cardine incrassato, inæqualiter tridentato; dentibus lateralis crassis, prælongis, tenuissime striatis.
Hab. —?

133. Corbicula sulcatina, Desh. C. testa ovato-trigona, turbidula, cordiformi, subæquilaterali, obliqua, transversim dense et tenuë sulcata, sulcis postice evanescentibus; lunula depressa, laevigata; epidermide viridi-flavescente, ad umones decorticata; umbonibus laevigatis, prominentibus, obliquis; intus candida, ad margines pallide castanea; cardine angusto, utroque latere bidentato, dentibus lateralis æqualibus, brevibus, striatis.
Hab. —?

134. Cyrena (Anomala) maritima, C. B. Adams. C. testa orbiculato-cordiformi, subæquilaterali, turbida, tenui, transversim irregulariter et dense striata, epidermide viridi-fuscescente induta; umbonibus magnis, parum obliquis, approximatis, acutis, laevigatis; latere antico superne declivi, convexiusculo, in medio parumper attenuato et obtuso, postico brevi, truncato, area magna, convexa, ovata, angulo obtuso, decurrente circumdata; cardine angusto, dentibus primariis tribus, minimis, subæqualibus, approximatis, apice bifidis, divergentibus,
lateralibus aequaliter remotis, in valva dextra duplicatis, antico usque ad cardinem canaliculato.

Cyrena maritima, C. B. Adams, Panama Shells.

Hab. Panama. Coll. Cuming.

135. Clementia Cumingii, Desh. C. testa ovato-transversa, tenui, turgida, valde inaequilaterali, alba, transversim late plicata et inaequaliter striata, irregulariter et dense punctato-rugosa, ad margines plicis depressissimis, declivi, obtuse attenuato, inferne convexo, lunula ovata, superne impressa notato; laterae posticae elliptice, superne convexiusculo, late obtuso, area elongato-lanceolata, excavata, angulo acuto circumdata; cardine angusto, dentibus tribus in valva dextra, duobus in altera, dentibus duobus anticos approximatis in valva dextra; sinu pallii profundo, triangulari, peroblique ascendente.


136. Batissa australis, Desh. B. testa ovato-subrhomboidali, convexa, crassa, solida, inaequilaterali, subgibbosa, epidermide atro-virescente, nitente vestita, transversim, praecripue antice, sulcata, soleis irregulares, postice evanescentibus; laterae antico brevissimo, obtuso, superne convexo, lato, rotundato, obtusissime biangulari; umbonibus obliquis, profunde erosis; cardine lato, incrassato, dentibus primaris tribus in unaquaque valva, validis, crassis, mediano valva dextrae majore, apice bifido, lateralibus inaequalibus, postico longiori, angustiore, antico crasso, brevi; valvis intus ad margines violaces.


137. Sanguinolaria purpurea, Desh. S. testa ovato-transversa, tenui, fragili, pellucida, convexiuscula, inaequilaterali, omnino intus extusque purpureo-sanguinea, transversim obsolete et irregulariter striata; laterae antico breviori, lato, semieliptico, superne inferneque convexiusculo; laterae postico attenuato, superne recto, declivi, obtuso, hiante; cardine in unaquaque valva inaequaliter bidentato; sinu pallii triangulari, superne angulato, antice oblique truncato, impressionem muscularem postico versus longe strangulato.

Hab. ——? Coll. Cuming.

138. Iphigenia psammobialis, Desh. I. testa ovato-transversa, turgida, tenui, fragili, aequaliter, transversim tenui et obsolete striata, sub epidermide squalide fuscisescente, deciua albo-lutescente, intus violaceo-pallido tincta; laterae antico semiovales, obtuso, superne inferneque convexiusculo; laterae postico paulo attenuato, superne subrecto et paulo declivi, extremitate truncato; cardine angustissimo, dentibus duobus primaris angustis, valde divaricatis in valva sinistra, dente unico crasso,
obtuso, bipartito in valva dextra; sinu pallii elongato, angusto, obtuso, horizontali.

Hab. ——?

139. MACTRA ALTA, Desh. M. testa trigona, alta, subæquilaterali, turbigda, convexa, tenue transversim irregulariter striata, epidermide squalide fusca vestita, omnino alba; latere antico paulo breviore, superne convexo, deinde recto et declivi; margine postico equiliter superne convexo, deinde declivi, recto, attenuato, brevi, truncato, in truncatura hiante; latere postico obtuse biangulato; umbonibus tumidis, acutis, oppositis; cardine angusto, dente cardinali submarginali, fossula angusta, profunda, sub cardine canaliculata; dentibus lateralibus magnis, compressis, triangularibus, valde prominentibus; sinu pallii minimo, trigono, obtuso.

Hab. Australia.

140. CAPSA (CAPSELLA) MINOR, Desh. C. testa ovato-transversa, compessa, tenui, fragili, subæquilaterali, irregulariter striato-sulcata, epidermide flavescente vestita, albo-violacea, ad umbones alba, violaceo-radiata, intus rubro-violacea, in medio albida; latere antico obtuso, parum attenuato, superne convexiusculo, declivi; latere postico angustiore, attenuato, perpendiculariter subtruncato, flexura vix manifesta bipartito; cardine bidentato, altero unidentato, dentibus crassiusculis, bifidis, nymphis intus callosis, brevis, prominentibus; sinu pallii profundo, horizontali, linea superiore inferiori parallela.


141. CAPSA (CAPSELLA) DIFFICILIS, Desh. C. testa elongato-transversa, tumidula, tenui, æquilaterali, transversim substriata, epidermide viridi aut flavescente vestita, griseo-violacea vel pallide violaceo-lacerata, intus purpurascente aliquantisper substriata, ad latus posticum saturationi purpureo-violacea; latere antico obtuso, superne recto, aliquando parum declivi, postico oblique truncato, angulo obtusissimo, oblique decurrente distincto, in medio linea impressa bipartito, irregulariter rugoso; area postica minima, plana, angulo obtuso separata; cardine angusto, dentibus primaribus minimis, obtusis, in valvula dextra duobus, in altera unico; sinu pallii elongato, sub angulo obtuso oblique parumper ascendente.

Var. β. Testa omnino violacea.

Var. γ. Testa superne paululum declivi, griseo-violacea.

Var. δ. Testa fere albida, in latere postico violacea.


142. CAPSA (CAPSELLA) RUFUS, Desh. C. testa elongato-transversa, tenui, fragili, compressiuscula, subæquilaterali, transversim irregulariter striata, vel obsolete sulcata, epidermide rufescente vestita, ad umbones decorticata, latus posticum versus fusca, intus roseo-purpurascente, in latere postico vivide violacea; cardine
angustissimo, fere edentulo, nymphis angustis, brevibus; sinu pallii profundo, lato, subovali, horizontali.


143. **Capsa (Capsella) radiata**, Desh. C. testa ovato-transversa, tenui, turgidula, paulo hiaate, utroque latere subæquilaterali, transversim obsolete et inæqualiter striata, epidermide tenui, pallide straminea vestita, pallide-albo violascente, violaceo multiradiata, intus purpurascence, violaceo-radiata; latere antico superne paulo declivi et convexiusculo, extremitate attenuato; latere postico paulo longiore, laiore, superne recto, oblique et obtuse truncato, angulo obtuso, decurrente separato, transversim satis regulariter striato; cardine angusto, bidentato, altero unidentato, dentibus obtusis, in valva dextra æqualiter divaricatis; sinu pallii lato, profundo, apice obtuso.

Var. β. Testa paulo angustiore rosea, vix radiata.

Var. γ. Testa omnino candida.


144. **Capsa (Capsella) rosacea**, Desh. C. testa elongato-transversa, depressiuscula, tenui, subæquilaterali, striata, epidermide straminea vestita, pallide-violeceo obscure pauci-radiata, intus pallide rubescence, violaceo-maculata et subradiata; latere antico paulo breviore, obtuso, paulo attenuato, postico superne recto, paulo declivi, angustato, oblique truncato, angulo obtusissimo distincto, margine inferiore paulo convexo, fere recto; dentibus cardinalibus parvis, obtusis; sinu pallii elongato, lato, horizontali.


145. **Capsa (Capsella) chinensis**, Desh. C. testa elongato-transversa, tenui, convexiuscula, inæqualiter, epidermide corneo-fuscescente, nitente, peripheriam superante vestita, transversim obsolete striato-rugosa, alba, in impressione musculari postica violaceo-maculata; latere antico paulo longiore, obtuso, superne declivi, postico depressiusculo, oblique truncato, superne declivi, cardine angusto, bidentato, altero unidentato, dentibus minimis, brevibus, nymphis callosis; sinu pallii profundissimo, angusto, obtuso, horizontali, marginibus parallelis.


146. **Capsa (Capsella) Layardi**, Desh. C. testa ovato-transversa, tenui, fragili, convexiuscula, subæquilaterali, transversim inæqualiter striata, epidermide corneo-viridi vestita, intus alba, ad impressionem muscularem posticemus fusco unimaculata; latere antico paulo longiore atque postice æqualiter obtusis, superne convexiusculis; cardine angustissimo, bidentato, altero unidentato, dentibus minimis, brevibus, fere obsoleteis, nymphis elongatis, triangularibus, prominentibus; impressione pallii margine remotae, sinu profundo, horizontali, satis lato, ellipsiideo, apice obtuso.

147. Capsa (Capsella) tenuis, Desh. C. testa elongato-transversa, elipsoidea, compressissula, inequilateralis, tenui, fragili, utraque extremitate equaliter obtusa, transversim obsolete striata, epidermide viridi, nitente vestita, pallide violacea obscure et pauci-radiata, intus violacea, aut albida et violacea-maculata; latere antico longiore, margine superiore recto, inferiori fere parallelo, postico compressissulo, superne paulo declivi; cardine angustissimo, bidentato, altero unidentato, dentibus minutissimis, sinu pallii profundo, lato, apice obtuso, horizontali, a margine remoto. 


148. Capsa (Capsella) crassula, Desh. C. testa ovato-transversa, paulo subtriangulari, aequilaterali, transversim inequaliter striato-sulcata, epidermide flavescente vel fuscescente vestita, ad umbones decorticata, intus purpurea; latere antico obtuso, semi-elliptico, postico late subtruncato, flexura obliqua bipartita, hiato duplici terminato; cardine angusto, bidentato, altero unidentato, nymphis elongatis, crassis, callosis, prominentibus; sinu pallii lato, profundo, dilatato, apice obtuso.

Hab. Philippines.

149. Capsa (Capsella) virescens, Desh. C. testa elongato-transversa, tenui, tumida, subaequilaterali, nitida, obsolete transversim substrata, sub epidermide flavo-virente alba, aliquantisper violacea-rubente longitudinaliter strigata; latere antico obtuso, postico oblique truncato; nymphis brevibus, prominentibus, crassis; cardine angusto, in utraque valva unidentato; sinu pallii oblongo, profundissimo, marginibus parallelis, superiore ad extremitatem paulo declivi.

Hab. —?

150. Capsa (Capsella) lunulata, Desh. C. testa elongato-transversa, subtrigona, aequilaterali, tenui, translucida, tenui et irregulariter transversim striata, epidermide corneo-flavescente vel fuscescente, nitente vestita, intus albo-caeruleascence, submargari-tacea, margine superiore utraque equaliter declivi, margine inferiore regulariter arcuato; latere antico obtuso, parum attenuato, postico oblique et obtuse truncato, angustato; cardine angusto, bidentato, altero unidentato, dentibus minimis; nymphis brevibus, triangularibus, acutis, prominentibus; sinu pallii elongato, angusto, horizontali, in medio paulo latiore, apice obtuso; in latere antico lunula impressa, elongato-lanceolata.

Var. β. Testa intus violacea, extus fusca.

Var. γ. Testa minore, depressissula, zonulis aliquibus atratis, transversalibus interrupta.

Hab. Philippines; var. β. Ceylon.

151. Capsa (Capsella) solenella, Desh. C. testa elongato-transversa, elliptica, tumidula, subaequilaterali, transversim tenui striata, superne in latere postico tenue sulcata, epidermide tenui
vestita, ad umbones violacea, margines versus pallidiore; latere antico obtuso, superne concaviusculo ad extremitatem depreso; latere postico subgibbosum, angulo obtuso, obliquum separatum, superne parum declivi, oblique late truncato; cardine angustissimo, fere edentulo, nymphis angustis, elongatis, intus calloso; sinu pallii latissimo, oblique ascendente, subspathulato.


152. Donax acutangula, Desh. D. testa elongato-transversa, angusta, tenui, fragili, convexiuscula, valde inequilaterali, polita, nitida, pallida, albo-flavescente transversim anguste et irregulariter zonata; intus albo-lutescente; latere antico praelongo, parum arcuato, extremitate obtuso et paulo hiante, margine inferiore regulariter arcuato, antice paulo ascendentem; latere postico oblique abrupte truncato, hiante, in medio subcarinato, inferne angulo acutissimo terminato, angulo carinato, oblique circumscripto, transversim elegantiter undato-striato, striis sublamellosis, tenuibus, marginibus integerrimis.


153. Donax nitida, Desh. D. testa elongato-transversa, angusta, valde inequilaterali, solidula, convexa, subcylindracea, utraque extremitate attenuata, leavigatissima, polita; latere antico elongato, superne inferneque paulo convexiuscula, extremitate attenuato; latere postico brevi, oblique truncato, obtuso angulato, inferne acuminato, plicis obliquis, profundis, arcuatis ornato; lunula elongato-lanceolata, pallide violaceo-carnea; valvis intus extusque albis.


154. Donax petalina, Desh. D. testa elongato-transversa, angusta, subaequilaterali, tenui, pellucida, fragili, nitida, in latere antico albo-opaca, in medio posticeque translucida, violaceo late biradiata, longitudinaliter tenuissime antice postiece striata; latere antico paulo longiore, angustiore, attenuato, obtuso, superne parum declivi; latere postico latiore, non angulato, obtuso, margine superiore recto, inferiori paralleló; cardine angusto, dente laterali antico brevi, crassiusculo, approximato, postico elongato, angusto, remoto, marginibus tenuissime crenulatis, antice crenulatis intus sulciformibus; sinu pallii elongato, angusto, obtuso, horizontali.

Hab. —— Coll. Cuming.

155. Donax ænea, Mörch MSS. D. testa elongato-angusta, minima, tenui, pellucida, valde inequilaterali, iridiscens omnino lavigata, pallide straminea; latere antico longiore obtuso, paulo attenuato, postico non angulato, obtuso, inferne acuminato; marginibus minutissime et regulariter crenulatis.


156. Donax peruviana, Desh. D. testa elongato-subtrigona, valde inequilaterali, crassa, solida, convexiuscula, omnino alba,
radiatim tenue striata, striis angustissimis, parum elevatis; latere antico multo longiore, superne recto, inferne convexo, regulariter arcuato, extremitate attenuato; latere postico obtuso, vix obtusissime angulato, striis tenuioribus impressis donato, sub ligamento paulo prominenti; cardine bidentato, dentibus lateralis validis, in valva dextra parum dilatatis; sinu pallii profundo, ovali, obtuso, oblique ascendente, marginibus regulariter profundeque crenatis.

_Hab._ Peru.

157. _Donax bella_ Desh. _D. testa elongato-transversa, tenui, compressiuscula, valde inaequilaterali, pallide albo-straminea, eleganter roseo-purpurascente panuci-radiata, longitudinaliter striata, striis tenuissimis, in latere postico profundioribus; latere antico praelongo, obtuso, compresso, superne recto, margine inferiori parallelo; latere postico oblique truncato, inferne acuminato, non angulato; cardine angusto, dentibus primariis minimis, lateralibus subaequalibus, elongatis, cardine remotis; sinu pallii lato, ovato, in medio dilatato, marginibus tenuissime crenulatis.

_Hab._ Acapulco. _Coll._ Cuming.

158. _Donax Conradi_, Desh. _D. testa elongato-transversa, subtrigona, solidula, compressa, inaequilaterali, radiatim tenue striata, grisea, fusco dilute picta; postice violascence, alius quam per albo-grisea vel rufescence, striis impressis in medio simplicibus, antice posticeque punctatis; umbonibus minimis, albis, violetaco breviter biradiatis; latere antico elongato, attenuato, cuneiformi, superne recto, declivi, postico oblique truncato, obtuso, inferne subangulato, striis multo tenuioribus; lunula elongato-lanceolata, angusta, impressa, violacea, angulo marginata; valvis intus violaceis; cardine albo; sinu pallii elongato, horizontali, obtuso, marginibus parallelis; marginibus tenue crenulatis.

_Hab._ California.

159. _Donax affinis_, Desh. _D. testa elongato-transversa, compressiuscula, laxe, nitida, inaequilaterali, sub epidermide flavicante pallide flavida vel violascence; latere antico praelongo, late obtuso, superne recto, vix declivi, margine inferiore fere recto, superiori parallelo; latere postico obtuso, declivi, non angulato, inferne attenuato, lunula angusta, lanceolata, ad umbones canaliculata; cardine angusto, in utraque valva inaequaliter bidentato, dente majore valvula dextra lato, bifido, dentibus lateralis obsoletissimis; sinu pallii profundo, ovato, obtusissimo, marginibus tenue denticulatis; valvis intus violaceis, in medio latro, albo notatis.

_Hab._ Red Sea. _Coll._ Cuming.

_Obs._ Species forma et facie Donaci truncato Lamk. simillima, sed distincta colore magis albido, lunula minus carinata, et praecipue sinu pallii majore atque profundeiore.


164. **Donax striatella**, Desh. *D. testa elongato-transversa,
triangulari, inaequaliaterali, solida, turgidula, in medio dilatata, subventricosa; longitudinaliter tenuissime striata, albo pallide rosea, ad umbones incarnata; latere antico longiore, superne recto, in sutura canaliculato, extremitate attenuato, inferne convesso, ascendente; latere postico planissimo, angulo obliquo, acuto separato, inferne attenuato et acuto, striis in latere postico tenuioribus; cardine bidentato, dentibus lateralisibus aequalibus, equidistantibus, in valvula sinistra dilatatis; sinu pallii elongato, horizontali, obtuso, marginibus parallelis; marginibus tenue crenulatis.

Hab. Australia.

165. **Donax granifera**, Desh. *D. testa trigona, brevi, crassa, solida, ventricosa, valde inaequaliaterali, albo-grisea aliquando ad umbones et latus posticum violaceo tincta, intus alba, ad margines violacea, umbonibus maculis duabus violaceis, angustis notatis, longitudinaliter striata, striis tenuissimis, regularibus, impressis, ad latus posticum sensim latoribus, profundioribus et granosis; latere antico elongato, obtuso, superne recto et declivi, inferne recto et horizontali; latere postico abrupto truncato, angulo acuto separato, plano, striis transversis et longitudinalibus decussato, granoso; umbonibus prominentibus; lunula lanceolata, sapisio violaceo-tincta; marginibus tenue denticulatis.


166. **Donax interrupta**, Desh. *D. testa trigona, cuneiformi, brevicularia, solidia, convexuscula, postice abrupta et planata, albo-grisea, vel pallide violascente, intus pallide violacea; latere antico elongato, superne recto, declivi, inferne in medio recto, antice ascendente, extremitate attenuato, radiatim striato, striis antice simplicibus, fere nullis, sensim profundioribus, ante angulum posticum profundis, in sulcos mutatis; latere postico angulo acuto abrupto distincto, plano, striis tenuibus longitudinalibus, transversalibus undatis, punctato-granosis, clathratibus vel textiliosis, umbonibus parvis, obscure violaceo pallido quadriradiatis; marginibus tenue denticulatis.

Hab. West Africa.

167. **Donax Dysoni**, Desh. *D. testa trigona, alta, brevi, compressa, solidula, valde inaequaliaterali, fere perpendiculariter truncata, albo-grisea, ad umbones breviter violaceo triradiata, intus violaceo dilute bimaculata, in medio et in latere postico antice lavigatissima, sub lente obsolete transversim striata, in latere postico transversim rugata et interstitiis longitudinaliter striatis; latere antico trigono, superne recto, declivi, inferne recto, horizontali, extremitate obtuso; latere postico obtuso, non carinato, marginibus creberrime denticulatis; sinu pallii profundo, subtrigono, obtuso, postice dilatato; dentibus lateralisibus validis, obliquis, subaequalibus.


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168. **Donax clathrata**, Desh. *D. testa minima, trigona, turgida, crassa, solida, brevi, abrupte truncata, angulata, albo-flava vel violascente, longitudinaliter argute transversim costellata, lamellis brevibus, numerosis, erectis eleganter decussata, costulis ad angulum posticum duabus tribusve distantioribus; latere postico brevissimo, sulco lato, sub angulo circumscripto, costellis granosis ornato; lunula impressa, elongato-lanceolata, minutissime transversim striata.*

*Hab. ——? Coll. Cuming.*

169. **Tellina crassula.** *T. testa ovato-transversa, solidula, compressa, opaca, valde inaequilaterali, sub epidermide griseo-flavicante albo-cretacea, inaequaliter obsolete transversim striata; latere antico praelongo, leviter arcuato, longe elliptico, superne recto et horizontali, antice late obtuso, paulo dilatato, inferne parum concevo; latere postico brevissimo, fere perpendiculari, obtuso, vix flexo, non angulato; cardine angusto, in valva dextra bidentato, in altera unidentato, dentibus lateralis nullis; sinu pallii elliptico, oblique ascendente.*

*Hab. Northern Ocean.*

170. **Tellina turgida.** *T. testa ovata, transversa, lata, turgida, satis tenui, subaequilaterali, squalide albo-fuscescente, intus candidissima, transversim satis regulariter striata, striis angustis, prominulis, striis obsoletis longitudinalibus numerosis decussatis; latere antico paulo longiore, latissimo, obtusissimo, inferne parum oblique producto; latere postico lato, subtruncato, superne declivi, in su lato profundoque, contorto, in valvula dextra biangulato, striis longitudinalibus prominentioribus; cardine angusto, bidentato, dentibus angustis, subaequalibus, apice bifidis; ligamento brevi, angusto, vix inosso; dentibus lateralis nullis; sinu pallii irregulariter subquadriangulari, superne sinuoso.*

*Hab. Catbalonga; Philippines. Coll. Cuming.*

*Obs. T. lacunosae et obesae affinis, attamen distincta forma, striis, cardine, et præcipue sinu pallii.*

171. **Tellina obesa.** *T. testa ovato-transversa, crassa, solida, valde ventricosa, subaequilaterali, squalide alba, intus vivide aurantia, transversim inaequaliter striata, et striis incrementi crassis, inaequalibus irregulatissimis gradata; latere antico lato, paulo longiore, semicirculari; latere postico superne parum declivi, obtuso, plicatura lata profunde contorto, in valva dextra subtriangulari; umbonibus magnis, oppositis approximatis; ligamento magno, crasso, partim inosso; cardine crasso, inaequaliter bidentato; musculorum cicatriculis maximis, antica ovata, postice rotundata; sinu pallii subtrapezoidali, superne dilatato et gibbospo.*


*Obs. T. lacunosae affinis, sed multo magis tumida, magis crassa, intus aurantia, extus contabulata.*
172. **Tellina moretonensis**, Desh. *T. testa ovato-trigona, convexiuscula, tenui, pellucida, subequilaterali, omnino candida, transversim tenue striato-lamellosa, longitudinaliter sub lente tenuissime striata, lamellis transversis, distantibus, angustissimis, brevibus, in medio scapius interruptis; latere antico lato, obtuso, semi-elliptico; latere postico attenuato, trigono, superne longe declivi, inferne obtuse angulato; umbonibus minimis, acutis, lavelgatis; lunula parva, lunata, impressa; cardine bidentato, dentibus laterialibus nullis; sinu pallii magno, ovato, obtuso, superne dilatato, flexura posticali fere nulla.*

**Hab.** Moreton Bay. **Coll.** Cuming.

173. **Tellina nucleolus**, Desh. *T. testa ovato-transversa, minimia, convexiuscula, tenui, pellucida, maxime inaequilaterali, nucleiformi, postice sub angulo recto truncata, pallide rosea, transversim tenue et regulariter striata, striis impressis, in latere postico majoribus, profundioribus, alternatim interpositis; latere antico praehongo, longe semi-elliptico, superne recto, margine inferiore regulariter convexo; latere postico brevissimo, obtuso, flexura fere nulla; ligamento brevi; cardine satis crasso, dentibus laterialibus validis subaequalibus, postico cardine approximato.*

**Hab.** ? **Coll.** Cuming.

174. **Tellina fabagella**, Desh. *T. testa regulariter ovato-transversa, crassiuscula, tumidula, inaequilaterali, pallide lutescente, transversim tenue et regulariter striata, striis profunde incisis; latere antico praehongo, longe semi-elliptico, obtuso; latere postico brevi, obtuso, superne recto, declivi, striis distantioribus, sublamellosis cum aliis alternantibus; flexura vix perspicua; lunula elongato-lanceolata, impressa, angulo acuto circumdata; cardine bidentato; dentibus cardinalibus validis, in valva dextra dilatatis; sinu pallii ovato-oblongo, horizontali, in medio paulo dilatato.*

**Hab.** Philippines, Luzon. **Coll.** Cuming.

175. **Tellina Rombergi**, Mörch. *T. testa orbiculato-subtrigona, solidula, convexiuscula, inaequilaterali, ad peripheriam albicante, roseo-rubente, radiis duobus ad umbones saturioribus, brevibus, oblique tenuissime striata, striis in latere antico flexuosis, postice in angulo acutissimo flexis, striis posticalibus multo tenuioribus, in latere antico valve dextra zonula longitudinali lavigata; latere antico brevi, late obtuso, subsemicirculari, postico superne recto, attenuato; cardine bidentato; dentibus lateralibus minimis, acutis, subaequalibus, remotis; sinu pallii subtriangulari, superne gibbosos, ad extremitatem attenuato.*

**Hab.** Brazil. **Coll.** Cuming.

**Tellina Rombergi**, Mörch, Kjerulf. **Cat.**

**Obs.** Telline strigillatae affinis, standem distincta colore et striarum dispositione.

176. **Tellina obtusalis**, Desh. *T. testa parvula, ovato-trans-
versa, tenuissima, nitida, turgidula, valde inaequilaterali, omnino roseo-purpurascence, transversim sub lente tenuissime et regulariter striata, striis in latere postico profundioribus; latere antico proelongo, obtuso, inferne convexusculo; latere postico brevissimo, obtusissimo; dentibus lateralibus in valva sinistra magnis, crassis, equalibus.

Hab. — ?

177. **Tellina japonica**, Desh. *T. testa ovato-transversa, compressa, solidula, inaequivalvi, inaequilaterali, omnino candida, levigata, polita, nitida; latere antico longiore, paulo attenuato, obtuso, superne connexiusculo, declivi, inferne in medio convexo, ad latus posticum ascendente; latere postico angulo decurrente, obtuso notato, inferne subangulato; valva dextra profunde convexusculo, cardine in utraque valva inaequilateral bidentata; ligamento partim infosso, in nymphis intus callosis affixo; sinu pallii magno, profundo, trianguli, superne valde angulato.


178. **Tellina ventricosa**, Desh. *T. testa magna, ovato-transversa, subtrigona, tenui, ventricosa, subaequilaterali, omnino candida, sub epidermide tenui, griseo-flavescente, transversim inaequilateraliter striata; latere antico paulo breviore, obtuso, superne declivi, convexusculo, extremitate paulatim attenuato; latere postico attenuato, late rostrato, superne declivi, recto, extremitate oblique truncato; margin inferiore late convexo, ad extremitatem posticum coarctato; plicatura posticali nulla; cardine angusto, dentibus cardinalibus angustis, lateralibus nullis; sinu pallii parvo, angusto, sublanceolato.


179. **Tellina contabulata**, Desh. *T. testa ovato-subrotunda, sublenticulari, solida, crassa, subaequilaterali, squalide albo-rufescente, irregulariter transversim obsolete striato-rugosa, incremento interrupto regulariter et distantier contabulata; latere antico lato, semicirculari, postico triangulari, inferne angulato, oblique late truncato, superne reto, declivi, angulo oblique decurrente distincto, flexura nulla; umbonibus acutis, oppositis; ligamento elongato, partim infosso; valvis intus candidis; cardine crasso, dentibus primariis angustis, brevisibus, lateralibus nullis; sinu pallii brevi, superne acutissimo, dein excavato.


180. **Tellina obliquaria**, Desh. *T. testa suborbiculato-trigona vel subovata, tenui, compressinclusa, inaequivalvi, inaequilaterali, pallide luteente, oblique tenuissimaque striata, striis numerosis approximatis, incisis, parum undulatis praecipue in latere antico; ad angulum posticum subito interruptis; umbonibus minimis, inaequalibus, approximatis, valvulae dextrae unbone eroso, alterum recipiente; latere antico breviore, paullo attenuato, obtuso, superne
declivi; latere postico magis attenuato, superne declivi, inferne subtruncato, angulo obtusissimo decurrente distincto, lavigato; cardine angusto, unidentato, in valva sinistra emarginato; dentibus lateralisbus nullis; sinu pallii profundissimo, angusto, superne convexiusculo.

_Hab._ Pacific Ocean. Coll. Cuming.

181. **Tellina textilis**, Desh. _T. testa ovato-transversa, satis lata, solidula, convexiuscula, alba, roseo-purpurascente ad un-bones picta et dilute radiata, radiis ad margines evanidis, superne inter se confluentibus, intus pallide purpurea, oblique angustissime striata in valva dextra, striis transversis, obsoletis decussata et textiliosa, valvula sinistra lavigata; latere antico semi-ovali, longiore, postico brevi, obtuso, superne declivi; cardine crassulo, bidentato, dentibus lateralisbus nullis; sinu pallii maximo, ad impressionem muscularum posticum subito ascendentem, angulato, dein lente declivi; flexura posticali fere nulla.


182. **Tellina donaciformis**, Desh. _T. testa elongato-transversa, solidiuscula, compressa, valde inequilaterali, postice truncata, omnino alba, transversim angustissime striata, striis longitudinalibus exilibus, obsoletis subdecussata, latere antico longe elliptico, superne inferneque recto, obtuso, marginibus paralleliis; latere postico brevissimo, inferne obtuse angulato, transversim tenue plicato, plicis ad angulum posteriorum obtusissimum abrupte terminatis; cardine angusto, bidentato, altero unidentato, dentibus minimis, lateralibus nullis; sinu pallii profundo, elongato, attenuato, in medio dilatato, superne undulato.

_Hab._ Torres Straits. Coll. Cuming.

183. **Tellina Layardi**, Desh. _T. testa elongato-trigona, tenui, fragili, compressa, valde inequivalvi et inequilaterali, candida, antice tenue transversim striata, in medio lavigata, postice sub lente minutissime longitudinaliter striata, striis densissimis; latere antico breviore, obtuso, postico fere duplo longiore, sensim attenuato, subacuminato, superne recto et longe declivi, inferne parum convexo; cardine inaequaliter bidentato, dentibus lateralisbus nullis; valva dextra profundiore, sinistra planulata, sinu pallii breviculo, subtrapezoidali, late et oblique truncato; flexura nulla; area plana, angulo obtuso circumdata, elegantur striata.

_Hab._ Ceylon. Coll. Cuming.

184. **Tellina inquinata**, Desh. _T. testa trigona, crassa, solida, depressiuscula, inequaliaterali, sub epidermide squalide fusca albo-fusca, ferrugineo inquinata, transversim irregulariter striata, intus candida; latere antico late obtuso, subsemicirculari, superne parum declivi; latere postico cuneiformi, attenuato, superne recto et declivi, extremitate oblique truncato, inferne oblique angulato, flexura parum perspicua; ligamento praelongo, incrassato; cardine biden-
tato, dentibus lateralibus nullis; sinu pallii magno, profundo, superne gibboso, dein deinde declivi et apice acuto.

_Hab._ Columbia.

185. **Tellina Suensoni**, Mörch. *T. testa rotundato-trigona,* solidula, convexiuscula, inequaliteri, squalide griseo-alba vel flavescente, sub epidermide tenui, decidua, griseo-flavescente, tenue et irregulariter transversim striata; latere antico longiore, semi-elliptico, marginibus subparallelis; latere postico triangulare, superne recta, declivi, extremitate attenuata, oblique truncato, angulato; flexura parum profunda; valvis per longitudinem arcuatis; cardine bidentato, altero unidentato, dentis postico valvae dextrae profunde fisso; dentibus lateralibus nullis.

_Tellina Suensoni_, Mörch, Kjerulf. _Cat._

_Hab._ Brazil. Coll. Cuming.

186. **Tellina ticaonica**, Desh. *T. testa parva, elongato-ovata,* transversa, compressa, hyalina, tenuissima, inequaliteri, nitida, polita, omnino pallide rosea; latere antico longiore, obtuso, superne convexiusculo, margine inferiore parallelo; latere postico brevi, truncato, inferne subangulato; ligamento brevi, prominenti; cardine angustissimo, dentibus binis minimis, bifidis in valva dextra; sinu pallii maximo, profundo, superne valde angulato, sub umbonibus ascendent.


187. **Tellina nitens**, Desh. *T. testa elongato-transversa,* tenui, pellucidus, depressiuscula, inequaliteri, pallide rosea et coloribus variis nitente, transversim obsolete tenue striata; latere antico elongato, longe semi-elliptico, inferne superneque convexiusculo; latere postico triangulare, attenuato, extremitate angulato, margine inferiore fere recto; flexura vix inconspicua; cardine angustissimo, bidentato, altero unidentato, dentibus lateralibus nullis; sinu pallii magno, impressionem muscularem posticam versus subito ascendente, angulum formante, dein longe declivi usque ad impressionem antican.

_Hab._ —? Coll. Cuming.

188. **Tellina equalis**, Desh. *T. testa satis regulariter ovata,* transversa, tenui, translucida, convexiuscula, æqualiteri, candida, rufo dilute maculata, nitente, transversim angustissime striata, obsolete radiata, utroque latere æqualiter obtusa et superne parum declivi, margine inferiori regulariter arcuata; umbonibus parvis acutis, oppositis; ligamento elongato, angusto, prominenti; cardine angustissimo, dente primario unico, minimo, in utroque valva; sinu pallii profundo, horizontali, superne late gibboso, ad extremitatem excavato.

_Hab._ Port Essington. Coll. Cuming.

189. **Tellina compressa**, Desh. *T. testa late ovata,* transversa, subæqualiter obtusa, solidula, complanata, subæqualiteri, omnino
alba, transversim substriata; latere antico paullo latiore, late semi-elliptico, obtuso; latere postico parum attenuato, obtuso; margine inferiore regulariter convexiulculo; umbonibus acutis, prominentibus, compressis, approximatis; cardine latusculo, in valva dextra bidentato, in sinistra unidentato, dentibus elongatis, angustis, prominentibus, lateralibus nullis; sinu pallii elongato, obtuso, ovali, superne dilatato, ad apicem declivi.

Hab. —? Coll. Cuming.

190. **Tellina contorta**, Desh. T. testa ovato-transversa, tenui, fragili, valde ventricosa, inaequilaterali, albo-cretacea, transversim tenuissime et satis regulariter striata, striis confertis; latere antico late semiovato, obtuso, superne convexiulculo, inferne recto, marginibus subparallelis; valvis in medio profunde contortis, postice profunde plicato-laminosis; umbonibus magnis, obliquis, apice truncatis, prominentibus; flexura posticali lata, profundaque, in valva dextra angulo carinato marginata, in valva sinistra costa rotundata, late formata; cardine angusto, bidentato, altero unidentato, dentibus bifidis lateralibus nullis; sinu pallii latissimo, subtrapezoidali.

Hab. —? Coll. Cuming.

191. **Tellina dilatata**, Desh. T. testa late ovata, tenui, fragili, tumidula, subaequivalvi, inaequilaterali, albida, sub epidermide flavida, decidua, maculis punctiformibus, raris, irregulariter sparsis, rubro-castaneis, pallidis irrorata, transversim inaequaliter et obsolete striata; latere antico paulo longiore, lato, subsemicirculari; latere postico superne recto, declivi, obtuse truncato, attenuato; flexura torta, vix profunda, biplicata; valvis intus albis, sub umbonibus pallidissime roseis; dentibus primariis minimis, angustis, lateralibus nullis; sinu pallii magni, ovali, ovato, subpathuliiformi, a linea inferiore detecto.

Hab. —? Coll. Cuming.

192. **Tellina sanguinolenta**, Desh. T. testa elongato-transversa, ovata, solidula, compressiuscula, inaequilaterali, flavo-rubente, ad umbones purpureae vel violascente, intus vivide rubra, sanguineo colore tincta; latere antico elongato, obtuso, superne recto, margine inferiori rectiusculo, superiori parallelo; latere postico obtuso, superne recto, parum declivi, angulo decurrente, obtusissimo distincto; dentibus cardinalibus 2 inaequalibus, obliquis, lateralibus nullis; sinu pallii profundissimo, angusto, in medio dilatato.


193. **Tellina mazatlanica**, Desh. T. testa ovato-transversa, compressa, tenui, inaequilaterali, pallide albo flavidula, laevigata substriatae, nitidula; latere antico longiore, semi-elliptico, margine superiore inferiori parallelo; latere antico attenuato, superne recto, extremitate truncato; flexura vix perspicua; ligamento brevi, partim infosso; cardine bidentato, altero unidentato, den-
tibus angustis, elongatis, lateribus nullis; sinu pallii late ovato, apice parum angustato, horizontali.


Hab. West Indies.

196. *Tellina disculus*, Desh. *T. testa sublenticulare*, orbiculare, superne vix angulata, in medio convexiuscula, aequilaterali, squalide alba, ad umbones pallide lutea, intus candida, in fornice sulphurea, transversim tenue striata, striis regularibus, obtusis, profundis, in flexura breviter lamellosis; latere antico late obtuso, subsemicirculari, postico vix in medio sub-truncato, superne rectiusculo, declivi, margine inferiore late arcuato; cardine lato, crasso, dente laterali antico valido, obtuso, cardine approximato, postico nullo; flexura parum profunda; sinu pallii subtriangulari, superne valde angulato, apice obtuso.

Hab. New Zealand.

197. *Tellina pretiosa*, Desh. *T. testa ovato-trigona*, crassula, tumidula, aequilaterali, omnino alba, longitudinaliter costellata, costellis regularibus, elatis, apice dilatatis, elegantissime squamulosis, squamulis dilatatis, erectis, circularibus, acutis, per series transversas atque longitudinalia digestis; latere antico lato, obtuso, semi-elliptico, superne recto, declivi, postico triangulari, attenuato, superne recto, longe declivi; lunula minima, lanceolata, impressa, levigata, angulo circumdata; area elongato-lanceolata, ad margines angulata, angulo altero minore circa ligamentum, area in valvula dextra quadrilineata, in altera nuda; cardine crassiuscule, dentibus lateribus validis, acutis, aequalibus, aequidistantibus; flexura fere nulla.

Hab. Philippines; Sumatra.
198. Tellina diemenensis, Desh. *T. testa trigona tam lata, quam alta, solida, compressiuscula, valde inaequilaterali, squalide rufula, sub lente exilimine transversim striata, incrementi ad margines interrupta; umbonibus acutis, subterminalibus; latere antico longiore, late obtuso, brevi, semi-elliptico; latere postico truncato, recto, valde declivi, extremitate inferiore subacute; flexura parum perspicua; dentibus cardinalibus apice bifidis, laterali antico approximate; sinu pallii magno, profundo, lato, superne dilatato, gibbosso.

Hab. Van Diemen’s Land.

199. Tellina callosa, Desh. *T. testa late ovata, subtrigona, crassa, solida, tumidula, inaequilaterali, omnino candida, tenuissime transversim striata, striis sublamellosis, striis longitudinallis obsolatis decussatis; latere antico paulo longiore, late semi-elliptico; latere postico triangulare, superne recto, declivi, inferne angulato, flexura angusta, satiis profunda, notato; margine inferiore paulo arcuato; valvis intus circa impressiones callosae, sub lente puncticulatis; cardine crasso, bidentato, dentibus lateralibus nullis; sinu pallii magno, ovato-triangulare, superne gibbosso.


200. Tellina moesta, Desh. *T. testa regulariter ovata, transversa, crassiuscula, tumidula, tenui, valde inaequilaterali, sub epidermide tenui, pallide viridi-flavicante alba, subcretacea, transversim obsolete striata, striis obtusis, latis, subplanis, irregularibus; latere antico longiore, obtuso, margine inferiore superioreque convexiusculis, parallelis; latere postico obtuso, paulo angustiore, flexura parum profunda; ligamento brevi, partim tiffoso; cardine angustissimo, bidentato, dentibus minimis, laterali antico nullo, postico obsolete; sinu pallii brevi, late ovato.


201. Tellina recurva, Desh. *T. testa ovato-trigona, depressa, solidula, inaequilaterali, valde per longitudinem arcuata, squalide alba, irregulariter transversim striata; latere antico breviore, late obtuso, semicirculari; latere postico trigono, acuminato, superne recto, declivi, inferne angulo acuto terminato; dentibus lateralibus parum perspicuis, antico in valva sinistra dilatato, sinu pallii angusto, profundo, apice acuminato.

Hab. Australia.

202. Tellina tristis, Desh. *T. testa elata, trigona, compressa, inaequilaterali, sub epidermide tenui, decidue, pallide flavo squalide alba, calcarea, ad umbones erosa, intus candida; latere antico brevi, late obtuso, subsemicirculari, superne tumidulo; latere postico triangulare, superne recto, longe declivi, extremitate acuminato; flexura angusta, vix conspicua; sinu pallii magno, in medio dilatato, spathuliformi, profundo, apice acuto, sub impres-
sione musculari postica maxime strangulato; ligamento elongato, crassiusculo, partim infosso.

Hab. Van Diemen’s Land.

203. Tellina abbreviata, Desh. T. testa late ovato-trigona, compressa, solidula, valde inæquilaterali, albo-pellucida, transversim tenue et irregulariter striata, striis obtusis confertis; latere antico lato, regulariter semi-elliptico; latere postico brevi, superne recto, rapide declivi, extremitate angulato, subrostrato; plicatura posticali angusta, satis profunda, duplicata, in valva dextra transversim oblique lamellosa; cardine angusto, inequaliter bidentato, dentibus lateralibus validis, elongatis, antico approximato; area elongata, angusta, excavata, levigata, angulo acuto circumdata.


204. Tellina brevirostris, Desh. T. testa late ovata, subtrigona, minima, tenui, depressa, inæquilaterali, candida, transversim tenue lamellosa, lamelis regularibus, brevibus, erectis, æquidistantibus; latere antico paulo longiore, late obtuso, semi-elliptico; latere postico triangulari, superne recto et valde declivi, inferne rostro brevi terminato; flexura minima, uniangularata, angusta, lamelis transversis rarioribus; area elongata-lanceolata, angusto, excavata, carina acuta, tenue et eleganter crenulata circumdata; lunula minima, angusta, lanceolata; dentibus lateralibus, subæquilaterali, subæquidistantibus; sinu pallii praelongo, superne gibboso, dein declivi.


205. Tellina australis, Desh. T. testa ovato-trigona, tenui, pellucida, compressa, subæquilaterali, pallide straminea, transversim tenuissime et regulariter striata, in valva sinistra striis postice evanidis, in dextra continuis; umbonibus acutis, prominentibus; margine superiore utroque latere æqualiter declivi; latere antico lato, obtuso, postice attenuato, oblique truncato, triangulato; flexura parva, parum perspicua; cardine angusto, dentibus lateralibus inequalibus, antico majore, approximato; sinu pallii praelongo, superne undulato, apice acuto.

Hab. Australia.

206. Tellina Strangei, Desh. T. testa ovato-subtrigona, convexiuscula, tenui, pellucida, inæquilaterali, pallide lutea, transversim tenuissime lamellosa, striisque longitudinalibus, regularibus decussatis; lamellis regularibus, æquidistantibus, brevibus; latere antico longiore, superne parum declivi, obtuso, postico paulo attenuato, obtuso, vix flexo, margine inferiore regulariter convexo; umbonibus minimis, vix prominentibus, lunulae minima, parum excavata, lanceolata, levigata; dentibus lateralibus magnis, subæqualibus, æquidistantibus.


207. Tellina tessellata, Desh. T. testa ovato-transversa, tenui, pellucida, tumidula, inæquilaterali, omnino squalide fulva,
intus concolore, nitente, striis longitudinalibus transversalibusque tenue et eleanter decussata, striis omnibus regularibus, æqualiter impressis; latere antico elongato, semi-elliptico, superne inferneque convexusculo; latere postico superne recto, declivi, extremitate truncato; flexura fere nulla; cardine angusto, dentibus lateralibus magnis, elongatis, trianguliris, prominentibus, æqualibus, subæquidistantibus; sinu pallii maximo, ovato, in medio superne gibbosulo.


208. Tellina attenuata, Desh. T. testa ovato-trigona, depressa, solidula, subæquilaterali, candida, transversim inæqualiter substritata; latere antico longiore, paulo obliquato, obtuso, superne declivi, convexiusculo, margine inferiori fere parallelo; latere postico angulo obliquum decurrente separato, superne recto, declivi, extremitate attenuato, subrostrato; flexura posticali fere nulla; cardine angusto, dentibus lateralibus nullis; sinu pallii magno, profundo, impressione musculari antica juncto, superne dilatato, angulato.


209. Tellina silicula, Desh. T. testa elongato-transversa, angusta, crassiuscula, tumidula, valde inæquilaterali, alba, vel pallide sulphurea, in latere postico radio unico, pallide roseo ornata, nitida, oblique tenuissime striata, striis argute undulatis, ad latum posticum subito terminatis; latere antico elongato, obtuso, marginibus rectis, parallelis; latere postico oblique truncato, inferne angulo obtusiusculo terminato, transversum tenue sublamelloso; flexura fere nulla; cardine crassiuscule, bidentato, altero unidentato, dentibus lateralibus nullis.


210. Tellina delicatula, Desh. T. testa elongato-ovata, tenuissima, compressa, hyalina, valde inæquilaterali, pallide et gratissime rosea, oblique tenuissime striata, striis æqualibus, satis distantibus, regularibus, in latere postico deficiensibus; latere antico elongato, lange semi-elliptico, obtuso, superne inferneque convexiusculo; latere postico obtuso, subangulato, tenue transversim plicato; cardine angustissimo unidentato, dente laterali antico minimo, elongato, posticali nullo; sinu pallii magno, oblongo, profundo, superne undulato.


211. Tellina straminea, Desh. T. testa ovato-trigona, tenui, pellucida, convexiuscula, subæquilaterali, omnino pallide straminea, transversim tenue et regulariter striata; latere antico obtuso, superne declivi, paulo breviore, postico valde attenuato, triangulari, acuto, superne recta, declivi; cardine angustissimo, dente laterali antico minimo, perspicuo, posticali nullo; sinu pallii maximo, late trigono, superne angulato, gibbosulo.

212. Tellina Leda, Desh. *T. testa minima*, ovato-transversa, tenui, depressa, aequalilaterali, alba, transversim regulariter striata, striis impressis; lateribus aequaliter obtusis, superne declivibus, margine inferiore paulo convexo; latere postico angulo obtuso distincto, striis transversis obsoletis, longitudinalibus decussatis; cardine angusto, dentibus cardinalibus minimis, lateralis aequalibus, aequalistantibus; flexura postica fere nulla; lunula lanceolata, minima, excavata.

213. Tellina rubella, Desh. *T. testa elongato-angusta*, tenui, fragili, convexiuscula, valde aequalilaterali, omnino rubro-purpureascente, antice posticoque rubro saturatiore uniradiata, transversim tenue et regulariter striata, striis ad latus posticum evanescentibus; latero antico elongato, obtuso, superne recto, non declivi, margine inferiore recto, superiori parallelo; latero postico attenuato, declivi, inferne acuminato, striis undulatis transversis præsertim in valvula dextra ornatu; cardine angustissimo, dentibus minimis, lateralibus nullis; sinu pallii maximo, obtuso, in medio dilatato.

214. Tellina rubra, Desh. *T. testa orbiculato-trigona*, depressa, tenui, pellucida, subaequalilaterali, omnino rubro-purpurea, transversim argutissime striata, striis in valva dextra profundioribus, in sinistra obsoletis, fere nullis, in latere postico evanescentibus; latero antico breviter semi-ovali, late obtuso, postico paulo breviore, triangulare, superne recto, declivi, inferne attenuato, flexura parum profunda, angusta; cardine unidentato, dentibus lateralibus parvis, postico longiore, remoto; sinu pallii maximo, triangulare, angulo superiore acuto, sub cardine prodiente.

215. Tellina resecta, Desh. *T. testa trigona*, depressiuscula, crassa, valde aequalilaterali, sub angulo fere recto postice quasi resecta, candida, transversim tenuissime striato-lamellosa, striis tenuibus longitudinalibus decussatis, striis transversis, erectis, pluribus ad latus posticum inter se confluentibus, antice sursum reflexis; latero antico prelongo, semi-ovali; latero postico abrupte truncato, inferne angulato, flexura parum perspicua, in valva dextra biangulata, lamellosa; area postica plana, laevigata, angulo acuto, tenue serrato circumscripta; ligamento elongato, crasso, partim infosso, cardine inaequaliter bidentato, dentibus majoribus pediculatis, apice profunde bifidis; sinu pallii maximo, elliptico.
Hab. Australia.

latere antico semi-ovato, postico triangulare, attenuato, compresso, brevirostrato, longe superne recto et declivi, margine inferiore convexo; cardine lato, inaequaliter bidentato, dentibus lateralibus triangularibus, inaequalibus, antico majore, postico magis remoto; sinu pallii maximo, impressione musculari antica juncto, superne gibbosso, dein paulo excavato.


217. TELLINA DENTICULATA, Desh. T. testa ovato-subtrigona, transversa, crassa, solida, compressa, subaequilaterali, omnino candida, transversim regulariter ct tenuissime striata, striis acutiusculis, longitudinalibus, obsoletis decussatis; latere antico lato, paulo breviore, semi-elliptico, postico attenuato, superne recto et declivi, margine inferiore convexo et declivi, extremitate brevi-truncato; flexura minima, angusta, in valvula dextra biangulata; area angusta, plana, angulo acuto et regulariter denticulato circumscripta; cardine crasso, latiuscolo, dentibus lateralibus magnis, elongatis, antico paulo majore, approximato.

Hab. ——? Coll. Cuming.

218. TELLINA SQUAMIFERA, Desh. T. testa ovato-transversa, compressa, solidula, inaequali, æquilaterali, candida, transversim tenue et regulariter lamellosa, lamellis numerosis, latis, in latere postico erectis, in antico retroversis, lateribus æqualiter obtusis et superne declivibus; margine inferiore regulariter arcuato; in flexura posticali parum profunda lamellis distantioribus et minus regularibus; area angusta, plana, levigata, angulo squamisero marginata, squamis magnis, erectis, obliquis, regularibus; dentibus lateralibus magnis, subaequalibus, postico valde remoti; sinu pallii breviculo, obtuso, medio dilatato.


219. TELLINA SEMIASPERA, Desh. T. testa ovato-transversa, tenui, pellucida, compressa, æquilaterali, candidissima, in medio transversim regulariter tenue striata, ad latus posticum striis erectiusculis, lamellaribus, irregulariter interruptis, in latere postico squamulis longis, erectis, spinaeformibus, quincuncialibus exasperata, in latere antico squamulis breviaribus, radiatis ordinatis; latere antico obtuso, semi-elliptico, postico oblique truncato, subangulato; flexura satis profunda, in valva dextra subcarinata; lunula angusta, lanceolata, impressa, levigata, angulo marginata; dentibus lateralibus magnis, æqualibus, æquidistantibus.

Hab. ——? Coll. Cuming.

220. TELLINA SOLENELLA, Desh. T. testa elongato-transversa, subsoleniformi, depressa, tenuissima, membranacea, hyalina, inaequaliteri, candida, levigata, nitente; latere antico paulo longiore, obtuso, margine superiore et inferiore convexiusculis parallelis; latere postico obtuso, paulo angustiore, non
declivi, hiante; flexura vix perspicua; cardine angusto, bidentato, dente laterali antiō minimo, cardine approximato.


221. Tellina egregia, Desh. T. testa ovato-transversa, tenui, fragili, tumidula, inaequilaterali, rosea, roseo-purpurascence transversim multifasciata, albo eleganter radiata, nitida, inaequaliter transversum substrati; latere antico semi-elliptico, superne inferneque convexiusculo; latere postico triangulari, depresso, declivi, subrostrate, apice truncato; flexura late biplicata, subangulata, laevigata; cardine angusto, inaequaliter bidentato, altero unidentato, dentibus majoribus apice dilatatis, furcatis, lateralis minimos, angustis, aequalibus, subaequaldestantibus; sinu pallii elongato, supra gibbos, extremitate attenuato.


222. Tellina amboynensis, Desh. T. testa transversa, ovato-oblonga, tenui, fragili, turgidula, subaequalaterali, albo-flavida, subcornea, zonulis angustis interrupta, laevigata, nitente, obsoletissime transversim striata; latere antico paulo longiore, parum oblique obtuso, superne inferneque convexiusculo, marginibus parallelis; latere postico paulo attenuato, superne declivi, convexiusculo, ad extremitatem truncato; flexura parum profunda; ligamento immerso, cardine angusto, dente laterali postico vix perspicuo, antiō nullo; sinu pallii profundo, lato, ovato, subspathuliformi.


223. Tellina glabrella, Desh. T. testa ovato-trigona, transversa, compressa, tenui, subaequalilaterali, sub epidermide tenui, pallide flavida, albo-cretacea, inaequaliter obsolet transversim striata; latere antico longe semi-elliptico, obtuso, superne inferneque convexiusculo; latere postico attenuato, trigono, superne recto et declivi; margine inferiore in medio recto, extremitibus arcuato; umbonibus acutis; flexura angusta, parum perspicua; cardine angusto, bidentato, dentibus inaequalibus, minimis, lateralis nullis; sinu pallii profundo, superne gibbos, dein de declivi.


224. Tellina radians, Desh. T. testa orbiculato-trigona, solida, depressiuscula, inaequalilaterali, pallide flava, ad umbones roseo-purpurascence, radiis numerosis roseis ornata, in valvula sinistra minus numerosis, transversim tenue et regulariter striata, striis simplicibus, obtusis; latere antico magno, late semi-ovali, postico brevi, trigono, superne recto, rapide declivi, inferne subangulato, subrostrate; flexura brevi, parum profunda; lunula areaque albis; valvis intus pallide purpureis; cardine crasso, dentibus lateralis crassis, brevibus, aequalibus,
cardine approximatis; sinu pallii profundissimo, impressionem
muscularem anticum attingente, superne giboso.

225. Tellina petalina, Desh. T. testa ovato-transversa, sub-
trigona, tenui, compressuscula, inaequalaterali, pallide albo-
lutescente, roseo-purpurascence pulchre guttato-radiata, radiis
numerosis angustis, interruptis, umbonibus albidis, intus coloribus
repetitis, transversim striata, striis tenuibus, regularibus, ad
umbones nullis, ad latus posticum subundulatis; latere antico
semi-elliptico, superne umbones versus concaviusculo, inferne
conveo; latere postico breviori, trianguli, superne recto et
oblique declivi, ad extremitatem acuminato; flexura parva,
angusta, parum profunda, laevigata; dentibus lateraliibus mag-
nis, triangularibus, acuti, æquidistantibus.

226. Tellina rufa, Desh. T. testa ovato-transversa, solidula,
convexiuscula, inaequalilaterali, albida, rufo late radiata, radiis
inaequalibus, ad umbones secundos interruptis, transversim regu-
lariter striata, striis antice planulatis, in medio et ad latus
posticum erectis, striis longitudinalibus decussatis in valva
sinistra, striis transversis in latere postico subito evanidis;
latere antico elongato, semi-elliptico, marginibus parallelis;
latere postico trianguli, attenuato, superne declivi, apice
truncato; flexura lata, profunda, bicipitata, profunde transver-
sim striato-plicata; valvis intus pallide luteis; dentibus latera-
libus magnis, acutis, æqualibus, æquidistantibus; sinu pallii
magnus, obtusus, ovato.

227. Tellina incerta, Desh. T. testa late ovata, transversa,
solidula, convexiuscula, inaequalilaterali, in umbones purpurata,
flava vel pallide purpurascence, purpureo-radiata, radiis nume-
rosis, maculis saturioribus transversim maculatis, strigis
irregularibus fissuras simulaturibus subreticulata, transversim
striata, striis antice planis et obtusis, in medio erectis, angus-
tioribus, interstitiis striis longitudinalibus notatis; latere
antico longiore, semiovato, obtuso, superne subrecto, inferne
convexiusculo; latere postico trianguli, attenuato, infexo,
obtuse subtruncato; flexura profunda, satia lata, bicipitata,
striato-lamellosa, superne alba; valvis intus vel purpureis vel
sulphureis; cardine crasso, dentibus lateraliibus acuti, triangu-
laribus, magnis, æquidistantibus.
Tellina crucigera, var., Hanley.

228. Tellina flammula, Desh. T. testa elongato-transversa,
suboovata, solidula, convexiuscula, inaequalilaterali, luteo-sulphurea,
in umbones purpureo-violascence maculata et biflammulata,
flammulis rapido evanescentibus, transversim tenue striata, striis
depressis, ad latus posticum erectis, et in squamulas inaequales divisis, in valva dextra striis postice subito evanidis; latere antico semi-elliptico, obtuso, paulo longiore; latere postico attenuato, subrostrato, superne declivi, extremitate truncato, flexura profunda, fere laevigata; valvis intus sulphureis; sinu pallii profundissimo, longe ovato.

Hab. ——? Coll. Cuming.

229. Tellina Sieboldi, Desh. T. testa elongato-transversa, angusta, lanceolata, tenui, fragili, compressa, inaequilaterali, omnino rubro-purpurascente, in valva sinistra transversim tenue et satis regulariter striata, in valva dextra striis obsoletis; latere antico elongato, obtuso, superne recto, inferne paulo arcuato; latere postico brevior, valde attenuato, compresso, rostrato; flexura angusta; area posticali angusta, eleganter plicata, angulo angusto, tenue et regulariter striata, in valva dextra striis obsolentis; latere antico elongato, obtuso, superne recto, inferne medio gibbosulo, dein declivi, apice attenuato. 


230. Tellina Venusta, Desh. T. testa elongato-transversa, tenui, fragili, compressiuscula, inaequilaterali, nitida, sulphureo-incarnata, ad umbones rosea, et breviter subradiata, radio unico angusto, roseo in plicatura posticali, transversim obsoletissime striata, in valva dextra, striis ad latus posticum prominentioribus, acutis; latere antico elongato, obtuso, longe semi-elliptico, marginitibus parallelis; latere postico triangulatis, compresso, attenuato, rostrato, plicatura satis profunda, contorta, apice oblique truncato; sinu pallii breviculō, attenuato, superne in medio gibbosulo, dein declivi, et paulo excavato; dentibus lateraliibus angustissimis, elongatis, aequalibus.


231. Tellina Dialeuca, Desh. T. testa elongato-transversa, tenui, fragili, turgidula, inaequilaterali, nitida, hyalina, pallide flavo-aurantia, ad umbones subvitrea, obsoletissime transversim et longitudinaliter striata, striis transversis in lateri postico prominentibus, subrotundato-crenatis; latere antico pralongo, longe semi-ovali, superne recto, inferne convexiusculo; latere postico valde attenuato, rostrato, apice breviter truncato, superne recto et declivi; flexura profunda, in valva dextra acute biansulata; cardine angusto, inaequaliter bidentato, dentibus lateraliibus antico minimo, elongato, valde remoto, postico minore.


232. Tellina Sulcatina, Desh. T. testa elongato-transversa, angusta, compressa, tenui, inaequilaterali, inaequivalvi, squalide flavo-rubente, transversim tenue et regulariter striata, striis planis, laitis, ad latus posticum rectiusculis, acentiusculis; latere antico longe semi-elliptico, angusto, obtuso, superne inferneque recto, marginibus parallelis, latere postico subirigono, elongato, subros-
trato, apice oblique truncato, superne recto et declivi, flexura obtusa distincto, supra angulum transversim lamellosa; cardine angusto; dente laterali antico elongato, postico nullo; sinu pallii profundo, angusto, obtuso, margineibus parallelis.


233. Tellina vinosa, Desh. T. testa elongato-transversa, solidula, subventricosa, inequaliter, pallide purpurea, vinosa, zonaibus aliquidus saturatioribus interrupta, intus grata albo-purpurascenti, ad extremum posticum vivide purpureo-sanguinea; transversim striata; striis in latere antico simplicibus, planis, ad latus posticum angustioribus, erectiusculis, et in squamulis erectas, inequalis divisim, in valva sinistra striis postice subito interruptis; latere antico elliptico, paulo dilatato, obtuso; latere postico triangulares, attenuato, rostrato, superne recto et declivi; flexura profunde biplicata, forvata; cardine crassiusculo, dentibus lateralis validis, elongatis, equalibus, equidistantibus.

Hab. ——? Coll. Cuming.

234. Tellina amena, Desh. T. testa elongato-transversa, angusta, solidula, convexiuscula, inequaliter, pallide luteo-sulphurea, radiis raris, angustis, purpureis, interruptis ornata, transversum regulariter striata; striis in latere antico planis, in latere postico erectis, sublamellosis, aliquantisper paulo interruptis in valva dextra, continuas et crassioribus in sinistra; latere antico longe semi-elliptico, obtuso, superne inferneque vicus convexiusculo; latere postico breviori, triangulares, angusto, attenuato, rostrato, acute, flexura profunda notato, in flexura lamellosa; dentibus lateralis validis, equalibus, equidistantibus, in valva dextra dilatatis.


235. Tellina gratiosa, Desh. T. testa elongato-transversa, solidula, convexiuscula, inequaliter, pallide sulphurea, purpureo eleganter radiata, fasciis tricoloribus, transversis, satis regulariter interruptis et maculis quadratis formatis; umbonibus purpureis; transversim et regulariter striata, striis latis, planis in latere antico, in postico angustis, lamellosis, in squamulas oblongas interruptis; latere antico longiori, obtuso, superne fere recto, inferne in medio convexo, latere postico attenuato, inflexo, rostrato, oblique truncato, superne recto et declivi, flexura profunda, lamellosa; cardine inaequaliter bidentato, dentibus lateralis magnis elongatis, postico paulo breviori.


236. Tellina grata, Desh. T. testa elongato-transversa, solidula, compressiuscula, inequaliter, pallide purpurascenti, purpureo interruptim radiata, radiis ad umbones evanidis, in latere antico tenuissime et regulariter striata, striis in medio multo minus numerosis, majoribus, postice lamellosis et in squamulas interruptis; latere antico semi-elliptico, postico breviori, attenuato, rostrato, flexura profunda notato; valvis intus albis, ad margines purpureis.

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impressionibus muscularibus sanguineis; sinu pallii profundissimo, longissime elliptico.


237. Tellina ornata, Desh. T. testa elongato-transversa, angusta, solidula, convexiuscula, inaequilaterali, albo pallide purpureascenti, ad umbones purpurea, radiis purpureis, angustis ornata, transversim regulariter et teneu striata; striis obtusis, ad latus posticum angustioribus, lamellossis, erectis; latere antico longiori, angusto, obtuso, marginibus parallelis; latere postico attenuato, subrostrato, superne recto et declivi, extremitate perpendiculariter truncato; flexura profunda, in valva dextra biangulata, vix striato-lamellosa; sinu pallii longissimo, angusto, marginibus convexiusculis, fere parallelis.


238. Tellina decolorata, Desh. T. testa elongato-transversa, solidula, depressa, æquilaterali, pallide luteo-grisea, transversim sulcata, sulcis ad latus posticum distantioribus, sublamellossis, in squamulas brevibus interruptis, interstititis striis obsoletis longitudinalibus radiatis; latere antico semi-elliptico, superne recto, paulo declivi, inferne convexiusculo; latere postico rostrato, arcuato, recte truncato, attenuato, superne recto et declivi; flexura profunda, biangulata, late lamellosa; area angusta, plana, angulo crenato circumdata; sinu pallii magnop, profundo, ovato, apice elevato, acuminato.


239. Tellina dissimilis, Desh. T. testa elongato-transversa, angusta, crassiuscula, compressiuscula, subæquilaterali, luteo-flavescenti, ad umbones albicanti, purpurea, multi-radiata, transversim striato-sulcata, sulcis in valva dextra ad latus posticum erectiusculis, lamellossis et squamulis erectis quincuncialibus divisitis; in valva sinistra sulcis continuis; latere antico paulo longiori, longe semi-elliptico, superne recto, inferne paulo convexo; latere postico triangulari, late subrostrato, attenuato, superne recto, declivi, extremitate oblique truncato; flexura profunda, biangulata, undatim lamellosa; valvis intus albis, roseo-radiatis; sinu pallii profundo, anguste elliptico.


240. Tellina splendida, Desh. T. testa elongato-transversa, solidula, compressiuscula, subæquilaterali, albo pallide lutea, elegantem purpureo vivide multi-radiata, radiis interruptis, fasciis angustis albis et purpureo saturatiore, umbonibus pallidis, intus lutea, roseo pallide radiata, transversim regulariter et profunde striata; striis antice obtusis, ad latus posticum acutioribus et in valva sinistra teneu undato-crispis; latere antico longe semi-elliptico, superne recto; latere postico attenuato, rostrato, superne recto et declivi, extremitate truncato; cardine dentibus lateralibus elongatis, acutis, æquidistantibus.

241. Tellina dubia, Desh. *T. testa ovato-transversa, tumidula, solidiuscula, alba, zonulis transversis, pallidis interrupta, inaequaliter, transversim inaequaliter subtilissime striata; latere antico elongato, semi-elliptico, late obtuso, margine superiore infeori parallelo; latere postico brevi, flexura lata, non profunda, contorto, superne recto et declivi, extremitate late truncato; ligamento brevi, semicylindrico, intus in margine triangulari affixo; dentibus cardinalibus duobus parvis, lateribus nullis; sinus pallii irregulariter trapezoidali, in medio valde dilatato.

Hab. — ?
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Printed by Taylor and Francis, Red Lion Court, Fleet Street.
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1855.

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PROCEEDINGS

OF THE

ZOLOGICAL SOCIETY OF LONDON.

January 9, 1855.

Dr. Gray, Vice-President, in the Chair.

The following papers were read:—

1. Descriptions of Twenty-seven New Species of Achatinella, from the Collection of H. Cuming, Esq., collected by Dr. Newcomb and by Mons. D. Frick, late Consul-general of France at the Sandwich Islands. By Dr. L. Pfeiffer.

(Mollusca, Pl. XXX.)

Genus Achatinella.


1. A. aptycha, Pfr. (Pl. XXX. fig. 1.) A. testa imperforata, dextrorsa, oblongo-conica, tenuiuscula, striatula, parum nitida, alba, cingulis punctatis, castaneis ornata; spira elongato-conica, apice obtusula; sutura subsimplice; anfract. 6½, convexiusculis, ultimo ¾ longitudinalis subaquante, basi rotundato; apertura obliqua, truncato-ovali; intus lactea; plica columellari obsoleta, vix tortula; peristom. simplice, intus levissime labiato, margine dextro recto, columellari angusto, adnato.

Long. 21½, diam. 10 mill.

Hab. In insulis Sandwich (Frick).

Sect. Auriculella, Pfr.

(Testa subperforata, oblongo-conica; paries aperturalis lamella spiraliter intrante munitis, plica columellaris supera, deutiformis vel obsoleta; perist. expansiusculum. Species: Helix auricula, Fér., Tornatellina Petitiiana, Pfr., Partula pusilla, Gould?)

No. CCLXXXIV.—Proceedings of the Zoological Society.
2. A. cerea, Pfr. (Pl. XXX. fig. 21.) A. testa subperforata, dextrorsa, elongato-conica, tenui, striatula, diaphana, cerea; spira turrita, apice obtusa; anfr. 8, vis convexusculis, ultimo \( \frac{1}{3} \) longitudinis subequantem, basi subcompressa; aperture parum obliqua, truncato-ovali; lamella parietali tenui; plica columellari obsoleta; perist. albo, margine dextro breviter expanso, columellari dilatato, patente.

Long. 8\( \frac{2}{3} \), diam. 3\( \frac{2}{3} \) mill.

Hab. In insulis Sandwich (Dr. Newcomb).

Sect. Frickella, Pfr.

(Testa subperforata, oblonga; paries aperturalis lamella spiraliter intrante munitas; plica columellaris compressa, mediana; perist. simplex, rectum.)

3. A. amcena, Pfr. (Pl. XXX. fig. 3.) A. testa subperforata, ovato-oblonga, tenui, striatula, nitida, lutea, fusco obsolete unifasciata; spira convexo-conica, apice obtusa; sutura impressa; anfr. 8, convexiusculis, ultimo \( \frac{2}{3} \) longitudinis subequantem, basi subattenuato; aperture obliqua, semiovali; lamina parietali subtransversa; plica columellari subduplicata, callosa, superposita, lamina spiralis; perist. simplice, recto.

Long. 11\( \frac{1}{3} \), diam. 5 mill.

Hab. In insulis Sandwich (Frick).


4. A. candida, Pfr. (Pl. XXX. fig. 4.) A. testa dextrorsa, imperforata, ovato-conica, striatula, parum nitida, candida; spira convexo-conica, vertice minuto, negra, acutiuscula; sutura levii, filomarginata; anfr. 6\( \frac{1}{3} \), planiusculis, ultimo \( \frac{2}{3} \) longitudinis aequante, obsolete angulato, basi rotundato; aperture obliqua, truncato-auriformi; plica columellari mediocri, supra, obliqua, subcompressa; perist. fusco-violaceo, intus valide labiato, margine dextro expanso, columellari dilatato, plano, crasso, adnato.

Long. 22, diam. 11 mill.

Hab. In insulis Sandwich (Frick).

5. A. cinerosa, Pfr. (Pl. XXX. fig. 5.) A. testa dextrorsa, imperforata, ovato-conica, solida, sublevigata, nitida, fusco-grisea, lineis fuscis et albis radiata; spira conica, apice acutiuscula, alba; sutura subcrenulata, albo-marginata; anfr. 6, vis convexiusculus, ultimo spira paulo breviore, basi rotundato; aperture parum obliqua, truncato-auriformi; plica columellari torta, valida, dentiformi; perist. crasse albo-labiato, margine dextro substricto, breviter expanso, columellari crasso, adnato.

Long. 21, diam. 11 mill.

\( \beta \). Fulvida, fusco radiata, sutura concolore.
Hab. In insulis Sandwich (Frick).

6. A. macrostoma, Pfr. (Pl. XXX. fig. 6.) A. testa dextrorsa, imperforata, conico-ovata, solidula, levissime striatula; nitida, fulva, fasciis nonnullis pallidis et fuscis variegata; spira
conica, obtusula; sutura submarginata; anfr. 5 1/2, modice convexis, ultimo spiram aqueante, superne turgido, medio attenuato, basi rotundato; apertura parum obliqua, ampla, obauriformi, intus alba; perist. albo, leviter labiato, margine dextro expanso, superne valde curvato, columellari dilatato, adnato.

Long. 21 1/2, diam. 11 mill.

Hab. In insulis Sandwich (Frick).

7. A. Fricki, Pfr. (Pl. XXX. fig. 7.) A. testa subimperforata, dextrorsa vel sinistrorsa, oblongo-ovata, solida, leviter striata, nitida, coloribus pervaria; spira convexiusculo-conica, acuta; sutura anguste marginata; anfr. 6, vix convexiusculus, ultimo 3 longitudinalin subaquante, basi rotundato; apertura obliqua, obauriformi; plica columellari supera, torta, valida; perist. expansiusculo, obtuso, violaceo vel nigro labiato et limbato, margine dextra substricto.

Long. 20–21, diam. 10 1/2 mill.

a. Isabellina, pallide fusco subfasciata, sutura alba.

b. Læte castanea, fasciis albis et saturatoribus ornata (sinistrorsa).

g. Griseo-fusca, fasciis saturatoribus picta, sursum alba.

d. Alba vel lutescens, fasciis 2–3 nigro-fuscis ornata.

Hab. In insulis Sandwich (Frick).

8. A. Planospira, Pfr. (Pl. XXX. fig. 8.) A. testa imperforata, dextrorsa, ovato-pyramidata, solida, conferte striata et sub lente obsoletissime decussata, nitida, nigricante, fasciis nonnullis albis vel luteis, angustis ornata; spira conica, acutiuscula; sutura lineari, marginata; anfr. 5 1/2, planis, ultimo spira paulo breviore, obsolete angulato, basi rotundato; apertura obliqua, obauriformi; plica columellari supera, valida, torta, alba; perist. crasso albo-labiato, margine dextra repando, breviter expanso, columellari adnato.

Long. 19, diam. 9 1/2 mill.

b. Superne nigro-castanea, anfr. ultimo fulvo, brunneo lineato.

Hab. In insulis Sandwich (Frick).

9. A. Monacha, Pfr. (Pl. XXX. fig. 9.) A. testa imperforata, ovato-conica, solida, oblique striatula, parum nitida, griseo-alba, lineis fuscis varie cincta; spira elevato-conica, acutiuscula; sutura leviter marginata, subcrenulata; anfr. 6, convexiusculus, ultimo spira paulo breviore, basi rotundato; apertura obliqua, late obauriformi; plica columellari supera, obliqua, mediocris; perist. sublabiato, margine dextro breviter expanso, columellari crasso, flexuoso, adnato.

Long. 20, diam. 10 1/2 mill.

Hab. In insulis Sandwich (Frick).

10. A. Vidua, Pfr. (Pl. XXX. fig. 10.) A. testa subimperforata, dextrorsa, conico-ovata, striatula, sub lente minuittissime decussata, nitida, saturate fusca, caeruleo-albido bifasciata; spira convexo-conica, apice obtusula; sutura subsimplice; anfr. 6, vix convexiusculus, ultimo spira paulo breviore, basi rotundato; aper-
tura parum obliqua, truncato-oblonga; plica columellari obsoleta, vix torta; perist. intus valde labiato, margine dextro anguste reflexo, columellari dilatato, subadnato.

Long. 18½, diam. 10 mill.

*Hab.* In insulis Sandwich (Frick).

11. **A. multicolor**, Pfr. (Pl. XXX. fig. 11.) *A. testa imperforata, dextrorsa vel sinistrorsa, conico-oblonga, solida, striata et sub lente minutissime decussata, nitida, lutea vel alba, fascis nigro-castaneis varie ornata, rarius unicolor; spira elongato-conica, apice subtattenuata, acutiuscula; sutura marginata; anfr. 6, planiusculus, ultimo 2/₃

*Longituinis subaquante, basi rotundato; apertura obliqua, truncato-obauriformi; plica columellari supera, vix, torta; perist. nigro-limbato, margine externo substricto, breviter expanso, columellari dilatato, subadnato.*

Long. 17, diam. 9 mill.

*Hab.* In insulis Sandwich (Frick).

12. **A. attenuata**, Pfr. (Pl. XXX. fig. 12.) *A. testa subperforata, ovato-turrita, tenuiuscula, striatula et sub lente granulata, alba, strigis conis sepe angulosis picta; spira concavo-turrita, obtusa; sutura distincte thomarginata; anfr. 5½, superis planis, sequentibus convexis, ultimo 2/₃ longitudinis subaquante, rotundato, basi subcompresso; apertura obliqua, subtrigono-auriformi; plica columellari valida, compressa, lingueformi; perist. acuto, breviter expanso, intus labiato, margine basali cum columnellari dilatato intus angulum formante.*

Long. 16, diam. 7½ mill.

*Hab.* In insula Mani, Sandwich (Frick).

13. **A. Swainsoni**, Pfr. (Pl. XXX. fig. 13.) *A. testa sinistrorsa, imperforata, ovato-conica, solida, subtrigigata, nitida, albida, fulvo tenuiter striata; spira conica, apice fulva, acutiuscula; sutura marginata; anfr. 5½, convexusculus, ultimo 2/₃ longitudinis subaquante, infra suturam turgido, basi rotundato; apertura fere diagonalis, obauriformi; plica columnellari valida, compressa, lingueformi; perist. acuto, breviter expanso, intus labiato, margine basali cum columnellari dilatato intus angulum formante.*

Long. 20, diam. 11 mill.

*β. Virenti-lutea, anfr. ultimo antice castaneo.*

*Hab.* In insula Mani, Sandwich (Frick).

14. **A. Sowerbyana**, Pfr. (Pl. XXX. fig. 14.) *A. testa sinistrorsa, imperforata, conico-oblonga, solidula, subtrigigata, glutinoso-nitente, fulvo-lutescente, saturatus subradiata; spira convexiusculo-conica, subacuta; sutura marginata; anfr. 6, vir convexiusculus, ultimo spira paulo breviore, basi saccato-rotundato; apertura obliqua, obauriformi, intus alba; plica columnellari supera, valida, torta, rosea; perist. roseo-labiato, margine externo breviter expanso, columellari dilatato, adnato.*

Long. 18, diam. 9 mill.

*β. Paulo minor, flavo-albida, basi castanea vel viridula.*

*Hab.* In insulis Sandwich (Frick).*
15. A. *dolium*, Pfr. (Pl. XXX. fig. 15.) *A. testa perforata, ovato-conica, tenuiuscula, leviter striatula, parum nitente, pallide lutescente, fasciis et strigis angustis, fusculis variegata; spira conica, acutiuscula; sutura vix marginata; anfr. 6, convexis, ultimo spiram paulo superante, ventroso, basi subcompresso; apertura obliqua, obauriformi, intus alba; plica columellari alta, dentiformi, alba; perist. teuui, intus sublabiato, margine dextro anguste expanso, columellari dilatato, patente.

Long. 17, diam. 10 mill.

*Hab.* In insulis Sandwich (Dr. Newcomb).

16. A. *Forbesiana*, Pfr. (Pl. XXX. fig. 16.) *A. testa subperforata, dextrorsa vel sinistrorsa, ovato-conica, solida, conferte striatula, nitida, grisea vel alba, fasciis crebris griseis vel fuscis, sepe confluentibus picta; spira exacte conica, sursunt alba, apiculo nigro acutiuscula; sutura marginata; anfr. 6, convexiusculis, ultimo spira paulo brevior, rotundato; apertura obliqua, obauriformi; plica columellari supera, valida, nodiformi; perist. fusculo vel carneo limbato, margine externo breviter expanso, columellari crasso, subadnato.

Long. 19, diam. 10½ mill.

*Hab.* In insulis Sandwich (Frick).


17. A. *rudis*, Pfr. (Pl. XXX. fig. 17.) *A. testa subimperforata, ovato-turrita, solida, ruditer striata, fulvo-fusca; spira elevato-conica, acutiuscula; sutura simplice, levissime crenulata; anfr. 7½, modice convexis, ultimo § longitudinis vix formante, rotundato; apertura obliqua, sinuato-ovali; plica columellari mediana, laminæformi, subtransversa; perist. simplice, recto, acuto, margine columellari dilatato, reflexo, subadnato.

Long. 21, diam. 11½ mill.

*β. Custanea, fascia mediana et basi lutescentibus, spira minus elongata.*

*Hab.* In insulis Sandwich (Frick).

18. A. *fusiformis*, Pfr. (Pl. XXX. fig. 18.) *A. testa imperforata, fusiformi-oblonga, tenuiuscula, striatula, saturate fusca, pallide conspersa et oblique lineolata; spira concavo-conica, apice nigra, acuta; sutura simplice; anfr. 7, vix convexiusculis, ultimo ¾ longitudinis formante, basi attenuato; apertura obliqua, ellipsoidalae; plica columellari levi, compressa, subduplicata; perist. simplice, recto, margine dextro regulariter arcuato, columellari anguste adnato.

Long. 14, diam. 6¾ mill.

*Hab.* In insulis Sandwich (Frick).


19. A. *napus*, Pfr. (Pl. XXX. fig. 19.) *A. testa imperforata, dextrorsa, turrita, solida, striatula, nitidula, albida, fasciis griseo-carnceis et interdum lineis castaneis cingulata; spira elongato-conica, apice alba, acuta; sutura distincte marginata; anfr. 6½,
superis planis, sequentibus convexiusculis, ultimo \( \frac{1}{2} \) longitudinis subequante, rotundato; apertura diagonali, truncato-auriformi; plica columellari supera, mediocris, leviter torta; perist. intus labiato, margine dextro recto, columellari subdilatato, adnato.

Long. 19\( \frac{3}{4} \), diam. 10\( \frac{1}{2} \) mill.

Hab. In insulis Sandwich (Frick).

20. **A. ventrosa**, Pfr. (Pl. XXX. fig. 20.) *A. testa imperforata*, ovato-conica, solidula, striata, alba, deorsum epidermide fulva, nigro-estrigata vestita; spira conica, obtusa; anfr. 5\( \frac{1}{2} \), inaequalis, ultimo spira paulo breviore, basi rotundato; apertura fere diagonalis, late auriformis, intus alba; plica columellari crassa, dentiformis; perist. intus labiato, margine dextro recto, substricte descendente, leviter antrorsum arcuato, cylindrica brevi, adnato.

Long. 17\( \frac{1}{2} \), diam. 11 mill.

Hab. In insulis Sandwich (Dr. Newcomb).

21. **A. pulchella**, Pfr. (Pl. XXX. fig. 2.) *A. testa imperforata*, ovato-conica, subplanis, nitida, fulva, fascis nigro-viridibus et interdum fascia mediana alba ornata; spira conica, versus apicem acutum attenuata, alba, sutura filomarginata; anfr. 5\( \frac{1}{2} \), convexiusculis, ultimo \( \frac{1}{2} \) longitudinis subequante, rotundato; apertura fere diagonalis, subtetragono, auriformi; plica Columellare supra, dentiformis, valida; perist. intus valide labiato, marginis dextra et sinistra leviter decrescente, leviter antrorsum arcuato, cylindrica brevi, adnato.

Long. 15\( \frac{1}{2} \), diam. 10 mill.

Hab. In insulis Sandwich (Frick).

22. **A. gracilis**, Pfr. (Pl. XXX. fig. 22.) *A. testa imperforata*, gracili, turrita, solidula, subplanis, alba, fusco bifasciata; spira elongata, regulariter attenuata, apice obtusa; sutura simplicis, anfr. 8, planis, ultimo \( \frac{1}{2} \) longitudinis fere equante, basi rotundato; apertura subverticalis, sinuato-ovali; plica columellari mediana, subcompressa; perist. simplicis, marginis dextra recto, leviter arcuato, cylindrica brevi, adnato.

Long. 14, diam. 5\( \frac{1}{2} \) mill.

Hab. In insulis Sandwich (Dr. Newcomb).

23. **A. crassidentata**, Pfr. (Pl. XXX. fig. 23.) *A. testa imperforata*, sinistrorsa, solidula, striata, parum nitida, alba, fascis nonnullis lutea ornata, interdum basi virente-lutea; spira conica, apice obtusa; sutura marginata; anfr. 5\( \frac{1}{2} \), convexiusculis, ultimo \( \frac{1}{2} \) longitudinis subequante, basi rotundato; apertura diagonalis, sinuato-ovali; plica columellare supera, crassissima, dentiformi; perist. simplicis, marginis externo acuto, leviter arcuato, cylindrica brevi, angusto.

Long. 20, diam. 11 mill.

Hab. In insulis Sandwich (Frick).

24. **A. valida**, Pfr. (Pl. XXX. fig. 24.) *A. testa imperforata*, dextrorsa (rarius sinistrorsa), ovato-conica, solidula, subplanis, cinereo-fusca, pallide subfuscata et nigro strigatula; spira elevata, conica, apice fusca, acuta; sutura marginata, alba; anfr. 6, pri-
25. **A. globosa**, Pfr. (Pl. XXX. fig. 25.) *A. testa subimperforata, dextrorsa, conico-globosa, tenuiuscula, striatula, alba, lineis fuscis cingulata; spira brevi, convexusculo-conica, subacuta; sutura levii, submarginata; anfr. 5, modice convexis, ultimo ventroso, spiram subaequante, basi fusco; apertura obliqua, subtetragon-ovali, intus margaritacea; plica columnellari levii, vix torta; perist. acuto, fusco-limbato, intus albo-sublabeiato, margine columnellari incrassato, subadnato.

Long. 17, diam. 11½ mill.

*Hab.* In insulis Sandwich (Frick).

26. **A. conspersa**, Pfr. (Pl. XXX. fig. 26.) *A. testa imperforata, dextrorsa, conico-ovata, tenuiuscula, conferte striata, saturate fusca, maculis sordide albidis, strigas angulosas formantibus conspersa; spira conexo-conica, apice acuta; sutura simplicia; anfr. 6, superis planiusculis, penultimo convexiore, ultimo ⅔ longitudinis subaequante, rotundato; apertura parum obliqua, sinuato-elliptica; plica columnellari subbasali, compressa; perist. simplicie, recto, margine columnellari nullo.

Long. 18, diam. 10½ mill.

*Hab.* In insulis Sandwich (Frick).


27. **A. dentata**, Pfr. (Pl. XXX. fig. 27.) *A. testa imperforata, conico-ovata, solida, striatula, nitida, sub epidermide fulvida alba; spira conica, obtusa; anfr. 7, planiusculis, ultimo ⅔ longitudinis subaequante, basi rotundato; apertura fere verticali, subrhombea, basi angulata; plica columnellari profunda, compressa; perist. albo-callosa, marginibus callo junctis, dextro recto, medio introrsum unidentato; columnellari dilatato, adnato.

Long. 12, diam. 5½ mill.

*Hab.* In insulis Sandwich (Dr. Newcomb).

**2. Descriptions of Nine New Species of Land-shells, in the Collection of H. Cuming, Esq. By Dr. L. Pfeiffer.**

1. **Bulimus latilabris**, Pfr. *B. testa imperforata, succinoidea, tenui, longitudinaliter subgranulato-rugulosa, flavida, strigis angulatis, castaneis sub tessellata, vel ad suturam interrupte fasciata; spira brevi, conica, acutiuscula; anfr. 4, rapide ac crescentibus, vix convexiusculis, ultimo fere ⅔ longitudinis formante; columella ad apicem spirae aperta; apertura subverti-
calli, acuminato-ovali, intus margaritacea; perist. late expanso et reflexusculo, marginibus callo tenui junctis, columellari arcuato, calloso, albo.  
**Long.** 49, diam. 26 mill.  
**Hab.** Santa Fé de Bogota.

*B. testa subcompresse umbilicata, fusiformi-oblunga, tenuiuscula, striata et striis spiralisbus levis-sime decussata, fulvida, ad suturam crenulatum albo-fasciata; spira elevato-conica, apice obtusa; anfr. 5, vix convexusculis, ultimo spiram superante, antice breviter arcuatin ascendentc, basi attenuato; apertura vix obliqua, elongato-ovali, intus vitellina, nitida; columella alba, longe plicata; perist. albo, subin-crasato, margine dextra expanso et reflexo, superne arcuato, tum strictusculo, columellari dilatato, plano, patente.  
**Long.** 46, diam. 17 mill.  
**Hab.** Eddystone Island, Australian Seas.

*B. testa imperforata, ovato-conica, tenuiuscula, confertim striata et suboblique malleata, sericea, saturate castanea; spira exacte conica, apice acuta; sutura levi, suberenata; anfr. 6, convexusculis, ultimo spira paulo longiore, basi rotundato; columella tenui, subplicata, recedente, aurantiaca; apertura parum obliqua, subangulato-ovali, intus margaritacea, virenti-livida; perist. simplice, vix expansusculo, obtuso, sordide aurantiaco, margine columellari vix dilatato.  
**Long.** 74, diam. 34 mill.  
**Hab.** Eddystone Island, Australian Seas.

*B. testa perforata, subfusiformi-oblunga, tenui, confertim et leviter plicato-striata, albida, strigis spadiceis serratis irregulariter signata; spira inflato-conica, acutiuscula; anfr. 6, superis planiusculis, penultimo convexo, ultimo spiram subaequante, basi attenuato; columella torta, recedente; apertura vix obliqua, oblonga; perist. simplice, margine dextro sublate expanso, columellari dilatato, abrupte reflexo, patente.  
**Long.** 33, diam. 13½ mill.  
**Hab.** Venezuela?

5. **Bulimus ceratacme**, Pfr.  
*B. testa profunde et anguste rimata, subfusiformi-oblunga, solidula, irregularir striatula, parum nitente, carneo-albida; spira elongata, apice cornea, obtusula; anfr. 7½, parum convexis, medians remote et obsolete carneo-strigatis, ultimo ⅓ longitudinis vix superante, basi subattenuato; columella recedente, leviter plicata; apertura vix obliqua, oblongo-ovali; perist. acuto, intus sublabiato, margineus approximatis, callo tenui junctis, dextra expanso, superne arcuato, columellari patente.  
**Long.** 18½, diam. 6 mill.  
**Hab.** Peru?
6. Bulimus peregrinus, Pfr. B. testa perforata, subsusiform-turrita, solidiuscula, striatula, cerea; spira convexoturrita, apice obtusa; sutura subcrenulata; anfr. $8\frac{1}{2}$, vix convexiusculis, ultimo $\frac{1}{3}$ longitudinis subaequante, basi subcompresso; apertura obliqua, oblonga, utrinque angulata; perist. simpile, recto, marginibus conniventibus, dextro arcuato, colu-
mellari ferre stricto, a basi aperture dilutato, patente, planato. 
Long. 18, diam. $5\frac{1}{2}$ mill. 
Hab. —-?

7. Spiraxis mandarina, Pfr. Sp. testa imperforata, cylin-
draceo-turrita, solidula, levigata, nitida, lutescenti-cerea; spira 
elongata, apice attenuata, obtusa; sutura submargo-
matrix; anfr. 8, primis rotundatis, sequentibus modice convexis, ultimo $\frac{1}{4}$ longi-
tudinis subaequante, basi rotundato; columella callosa, torta, sub-
duplicata; apertura obliqua, elliptico-ovali; perist. simpile, 
recto, margine dextro superne antrorsum arcuato. 
Long. 23, diam. 6 mill. 
Hab. China. 
Allied to Achatina erecta, Bens., which is also a Spiraxis. Acha-
tina Dunkeri, Pfr. must likewise be transferred to the same genus.

8. Pupa (Ennea) oovata, Pfr. P. testa breviter arcuato-
rinata, oovata, tenui, levigata, hyalina; spira ventrosa, sur-
sum turgida, obtusa; sutura lineari-marginata; anfr. 7, primis 
4 convexis, sequentibus subplanis, ultimo $\frac{1}{2}$ longitudinis vix 
attingente, attenuato, basi compreso, latere dextro sccrubicu-
lato; apertura verticali, subtriangulari, plica profunda colu-
mellari, lamina valida, intrante ad angulum parietis, denticulis 
2 marginis dextri et singulo subbasali coarctata; perist. albo, 
breviter expanso.
Long. 6, diam. supra medium 3 mill. 
Hab. Liberia.

9. Pupa (Ennea) Ceylanica, Pfr. P. testa breviter rimata, 
subcylindrica, striatula, pellucida, nitida, lutescenti-hyalina; 
spira versus apicem obtusum vix attenuata; sutura sub lente 
regulariter denticulata; anfr. $8\frac{1}{2}$, convexis, ultimo $\frac{1}{4}$ longitu-
dinis non attingente, latere constricto et antice profunde sccru-
biculato, basi gibbo; apertura subverticali, truncato-oblonga, 
plica profunda colu[mellari, plica laminaformi juxta angulum 
parietis, dente valido in medio marginis dextri et minore basali 
coarctata; perist. albo, nitido, reflexiusculo. 
Long. $6\frac{1}{2}$, diam. 2 mill. 
Hab. Ceylon (E. L. Layard).

3. Notice of the Horns of an Unrecorded Species of 
Prong Horn (Antilocapra), in the Collection of the 
Derby Museum, Liverpool. By Dr. John Edward Gray, 
F.R.S., V.P.Z.S. etc.

Some years ago the late Earl of Derby showed me a pair of horns 
attached together by the skin of the forehead, which he had then
recently received; and more lately, Mr. Moore, the Keeper of the Derby Museum, submitted these horns to my examination, requesting my opinion on them. At his request I bring a short notice of them before the Society, in hopes to obtain further information respecting them, and a specimen of the animal itself, should it prove to be a distinct species of the anomalous American Antelope. The horns are most probably from America; but this is not certain, as the special locality has not been recorded, nor the person from whom they were obtained.

The colour, substance, and texture of the hair on the skin of the forehead attached to the horns, exactly resembles that of the Cabrit or Prong-horn (*Antilocapra Americana*, Gray, Cat. Mam. B.M. p. 117), and if it were not for the very peculiar form of these horns, I should have been inclined to have considered them as only the deformed horns of that animal; but both the horns are alike and have the same peculiarities, which is not usual in malformations; under these circumstances it appears better to regard them provisionally as belonging to a distinct species, to be established or erased from the list as further knowledge may decide.

There can be no doubt of the position of the horns, as a part of the upper surface of the orbit is to be observed, with the remains of the eyelids and eyebrows at the base of the left horn.

**Antilocapra antiflexa.**

The horns compressed, dark brown, rugose, rounded and curved and arched behind, compressed in front, becoming more so as they reach the supra-medial frontal process. The apex subtriangular, evidently compressed and angularly bent forwards rather above the compressed frontal process, with a deep furrow rather on the inner side of the middle of the hinder upper part of the bend; the inner edge of the recurved tip is rounded, the outer compressed, rather produced and sharp-edged; the extreme tip is roundish, tapering, with
a white end. They are considerably larger than the horns of the usual species.

In the Cabrit or Antilocapra Americana, the horns are thick, rounded on each edge and produced into a compressed submedial frontal process, which is gradually bent towards the inner side. The tips of the horns are rounded, becoming nearly cylindrical, and are gradually and regularly arched backwards and inwards with a bluntest extreme end.

The horns of the genus are peculiar for being lined internally with a close velvety coat of short hair, directed towards the tip of the cavity; and the whole outer surface of the horn appears to be formed of agglutinated hair, some separate hairs being seen on the surface.

The peculiarity in the internal structure of the substance of the horns of this genus shows, like the branched external form, a similarity to the horns of the Deer; the hairy horn being the analogue of the deciduous velvet of the Deer, and the permanent hairy coat of the Giraffe. The ring of hair round the base of the outer surface is to be observed equally developed in the horn from Lord Derby's Collection and in that of the common Prongbuck.


The genus Culicivora (as established by Mr. Swainson in the Zoological Journal for 1827) has the Muscicapa stenura of Temminck for its type, but embraces also the Muscicapa cærulea of Wilson and its affines. Now these birds belong in reality to two very different groups; the M. stenura being a Tyrannine, while the M. cærulea can hardly be placed within the limits of that family, but must be arranged either with the old-world Muscicapines (as in Bonaparte's Conspectus) or with the Sylviens (as in Gray's Genera of Birds). Dr. Cabanis in his Ornithologische Notizen, in Wiegmann's Archiv, has rightly separated these two forms, but has unfortunately chosen to call the M. cærulea and its allies Culicivora, and made a new name Hapatura for the M. stenura—the true Culicivora of Swainson.

Under these circumstances Hapatura is a mere useless synonym of Culicivora, Sw., and a new name is required for the group containing M. cærulea, and commonly known as Culicivora. I therefore propose for it the term Polioptila, from the general grey colouring of the plumage.

The species of this genus that I am at present acquainted with are the following:

1. Polioptila cærulea (Linn.).

Motacilla cærulea, Linn. Muscicapa cærulea, Wils. Am. Orn. ii. p. 164. pl. 18. fig. 5; Audub. pl. 84 ε & θ.

ε Cæruleo-cinerea, fronte et superciliis nigris : subitus cæreulescenti-alba, rectricibus extimis albis.

θ Mari similis, sed linea superciliari et frontali nulla.

Hab. United States, Texas, and Mexico.
I cannot discover how the *Culicivora mexicana*, Bp. Conspl. p. 316 (of which I have examined the type in the Berlin Museum), differs from this species. It appears to me to be merely a female of the present bird.

2. **Polioptila dumicola** (Vieill.).


♀ Supra plumbea: fronte et genis nigris: subitus plumbeo-alba, ventre et rectricibus utrinque extimis albis.

♀ Fronte et regione auriculari plumbeis concoloribus.

*Hab.* Paraguay (Azara); Corrientes and Buenos Ayres in the Argentine Republic, and Chiquitos and Moxos in Bolivia (d'Orb.).

D'Orbigny and Lafresnaye in their Synopsis in the Magazin de Zoologie, Hartlaub in his Index to Azara, and Bonaparte in his Conspectus, have all more or less confounded the synonyms of this species with those of the next; indeed the latter author has united all the synonyms under one head, and I was thus led into the error of describing the present bird as new. It is without doubt however the Azuladillo of Azara, and consequently must bear the specific name ‘*dumicola*’ of Vieillot. Lichtenstein's name ‘*bivittata*’ belongs to the next species, though the above-mentioned authors have quoted it as synonymous with this.

3. **Polioptila leucogastra** (Max.).


♀ Cinerea, pileo nigro: subitus alba, rectricibus utrinque extimis albis.

♀ Pileo concolor cinereo.

*Hab.* Brazil; Bahia (Pr. Max.); Monte Video (Mus. Berol.); Cayenne (Buffon): New Grenada.

This species is described by Prince C. L. Bonaparte in his Conspectus as *C. dumicola*, from which it may be easily distinguished by its black head.

4. **Polioptila bilineata** (Licht.).


♀ Supra plumbea, pileo nigro: loris superciliis et corpore subitus albis: primariis anguste cinereo, secondariis latius albo marginitis: rectricibus extimis apice albis.

♀ Pileo concolor plumbeo: superciliis albis.

*Hab.* Cartagena (Mus. Berol.).

The type-specimens in the Berlin Museum are the only examples I have seen of this species; which may be at once distinguished from all the preceding by its white superciliary stripe.
5. Remarks on the Arrangement of the Jacamars (Galbulae), with Descriptions of some New Species.

By Philip Lutley Sclater, M.A., F.Z.S.

(Aves, Pl. LXXVII.)

Since I wrote some articles on the Galbulidae, which appeared in Sir William Jardine's Contributions to Ornithology, and the little Synopsis of the family afterwards printed apart, I have lost no opportunity of examining specimens of these birds in several museums which I have visited. In so doing I have acquired some additional information concerning them, which I now purpose bringing before the Society, together with characters of what I believe to be three hitherto unrecognized species.

Genus 1. Galbula.

1. viridis, Lath. Synopsis of the Galbulidae, p. 2. sp. 1.

Dr. Cabanis, in his article upon these birds in Ersh and Gruber's Encyclopädie, calls the Amazon specimens true 'viridis,' and separates the Cayenne and Guiana bird from them, under Swainson's title 'viridicauda.' I cannot myself discover much difference between them. Prince C. L. Bonaparte quotes as a species 'quadricolor,' Verreaux, a MS. name for which no specific characters have been published. A specimen so labelled in the British Museum is from Peru, but seems to me barely separable from G. viridis.


Dr. Cabanis' name has, I believe, a few months' precedence in point of date over my 'maculicauda,' and must therefore be used for this species. As additional localities, I have now: River Tocantins, Brazil (Mr. Wallace), and Bolivia (Bridges, in Mus. Brit.).

3. melanogenia, Sclater. Synopsis, p. 3. sp. 3.

I have since seen other specimens of this species, both male and female, all from Central America.

4. ruficauda, Cuv. Synopsis, p. 3. sp. 4.

Add, as localities: Tobago (Kirk); Cumana (Dyson); Cartagena (Mus. Berol.).

These four species are, as I have already remarked (Cont. to Orn. 1852, p. 93), very closely allied to one another, but may be distinguished by the colouring of the rectrices. They are not, however, placed together in Prince C. L. Bonaparte's arrangement in his Conspectus Zygodaetrium.

5. tombacea, Spix (cyanescens, Deville).

From the Upper Amazon and eastern provinces of Peru.

6. Galbula fuscicapilla, Sclater, sp. nov. (Pl. LXXVII.)

3 Laete viridis: fronte et pilo summo fuscis: nucha paululum cyanescente: mento albido: ventre crissque intense castaneis:
rectricibus extimis rufis, quatuor mediis supra viridibus dorso concoloribus. Long. tota 8·0, alæ 3·0, caudæ 3·5.

♀ Ventre valde dilutiore.

Hab. In Nova Grenada, Bogota.

I have hitherto confounded this species with the G. tombacea, but the examination of several examples of the latter bird in the continental museums has convinced me that they are quite distinct, the tombacea presenting no appearance of the fuscous crown which distinguishes this species. In one of my specimens, apparently the most adult, the green descends much lower down than in others I have seen. The two outer rectrices of this bird are, as is usual in this genus, abnormally small. The first outer normal pair are rufous, tipped and externally edged with green. This green is blackish below, but above vivid as the back. The next two pair are wholly rufous. The middle four are vivid green above, and blackish-green below; the submedial pair having some rufous colouring inwardly towards the base.

7. albirostris, Latham. Synopsis, p. 5. sp. 6.

8. chalcocephala, Deville. Synopsis, p. 5. sp. 7.

I have lately seen many specimens ♂ and ♀ of this species. The male has a white bar on the throat, as in G. albirostris, with which it is certainly very closely allied. In his ‘Conspicctus Zygodactylorum,’ Prince C. L. Bonaparte unites this species with G. leucogastra, with which it has nothing to do. In the ‘Conspicctus Anisodactylorum,’ the origin of this error is attributed to an opinion of mine that they were identical (!), which however I never either expressed or entertained.


Specimens of this bird in the Berlin Museum,—the types of G. cyanopogon, Cab.,—are from Cametà, which is on the south of the Amazon, in the province of Para. The female is pale rufous below, instead of chestnut-red.

10. leucogastra, Vieill. Synopsis, p. 6. sp. 9.


1. paradisea (Linn.). Synopsis, p. 8. sp. 11.

2. Urogalba amazonum, Sclater, sp. nov.


Long. tota 13·0, alæ 3·8, caudæ 6·5.


Obs. Similis U. paradisea, sed major et pileo antico albescente fuseo.
It is not without hesitation that I separate this bird from the former. I have seen many examples of it from North Brazil, and have always remarked that they differ from the Cayenne U. paradisea in size and in the whiteness of the forehead. Mr. Wallace brought specimens from the neighbourhood of Para, whence I believe came also my type, which I purchased in Hamburgh. I may remark that there are many other corresponding species of birds in Cayenne and Brazil, of which the distinctness is generally admitted (such as Pteroglossus aracari and Wiedi, Caryothraustes cayanensis and brasi-liensis, and Piprites chlorion and chloris), which depend upon differences similar to, or perhaps less than, those between Urogalba paradisea and U. amazonum.


To the localities add: Quixos in rep. Equat. (Sir W. Jardine), and Angostura on the Orinoco (Mus. Kiliens.).

The female has the belly rufous instead of white. This species is certainly not the albiventer of Cuvier, that name having been applied by him to Le Vaillant's figure, Supp. H. (cited by Cuvier, insufficiently perhaps, but not incorrectly, by the number of the page, 46), and consequently a synonym of Vieillot's leucogastra, as placed by me in my Synopsis (see Cuvier's Règn. An. (1829) i. p. 448). I had supposed G. albicularis of Spix, and not this species, to be the type of Brachygalba, Bp., because it stood first in the list. When the creator of a genus gives neither generic characters nor type, the only rule to go by is to take the first species given as the type species.

2. Brachygalba melanosterna, Sclater, sp. nov.

Supra nigriranti-fusca; subtus nigra; mento albido: ventre medio albo: alis caudaque albescentibus: rostro albo.

Hab. Goyaz in imp. Brasiensi (Behn); Guarayos in Bolivia (d'Orb.).

I observed a specimen of this species in the collection of Professor Behn, at Kiel. It closely resembles the preceding, but has the breast quite black and the bill white. It was brought by the owner from the province of Goyaz, in the interior of Brazil. D'Orbigny's specimen, mentioned in my Synopsis, page 7, probably also belongs to this species.

I have nothing further to say concerning Jacamaraleyon and Jacamerops. The Galbuloides Boersi is probably a fictitious bird. Specimens of Galbalcyrynchus in the Paris Museum were brought by MM. Castelnau and Deville from Pebas, on the Upper Amazon; and one of these birds, in the collection of Herr Kalcmann of Hamburgh, was procured in the neighbourhood of Pernambuco in Brazil. Excluding therefore the Galbuloides, we have at present no less than twenty species of the family Galbulideae, all inhabiting the tro-
pical portions of South America. One only of these birds is found outside the Isthmus of Panama, and none occur on the western side of the Andean range. Azara includes none among the birds of Paraguay, and two only range so far south as the Brazilian provinces of Rio and S. Paolo. The true home of these birds seems to be the hot, low forests of Guiana and the Amazons, where the number of species attains its greatest development.

GALBULIDARUM TABULA GEOGRAPHICA.

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*
January 23, 1855.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. **Notice of the Horns and Skull of the Arnee.**
   By **Dr. J. E. Gray, F.R.S., P.B.S., V.P.Z.S. etc.**

(Mammalia, Pl. XL.)

Colonel James Matthie has lately presented to the British Museum the skull and horns of an Arnee or Buffalo, killed by him near Fezpoor, Central Assam, on the 8th of April, 1842.

The horns are of a very large size, as proved by the accompanying measurement, being nearly as large as the separate horns without a skull, in the British Museum, which formerly formed part of Sir Hans Sloane's Collections, and were described and figured by him in the Philosophical Transactions for 1727, no. 397, p. 222, f. 23. These horns are 78 inches, or 6 feet 6 inches long.

The dimensions of Colonel Matthie's specimen are as follows, according to his measurement.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>ft.</th>
<th>in.</th>
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<tbody>
<tr>
<td>&quot;Length of the skull from occiput to nose</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Length of the horns round the outside of them and across the forehead</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Length of line from tip to tip of the horns</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Circumference of right horn at base</td>
<td>1</td>
<td>8(\frac{1}{4})</td>
</tr>
<tr>
<td>, left horn at base</td>
<td>1</td>
<td>8</td>
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<tr>
<td>Width across the forehead</td>
<td>0</td>
<td>11</td>
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</table>

"The horns do not exactly correspond in length and shape."

The occipital portion of the skull is very much developed, to give enlarged attachment to the muscles of the neck for the support of the horns.

I may observe, that the Arnee of Anderson, *Bee*, 1792 (the *Bos arne* of Kerr, 'Animal Kingdom,' 336. t. 295, copied into 'Shaw, Zoology, iv. p. 400, t. 210) is only a large horned variety of the common Buffalo, with horns nearly regularly curved from the base. The horns presented by Colonel Matthie, on the other hand, are nearly straight for great part of their length, and only curved at the end. In this respect they agree with the horns in the British Museum, which Mr. Doyle, whose name is "given to a sort of stuffe worn in summer," discovered in a cellar in Wapping, and which he gave to Sir Hans Sloane for his kindness in attending him in sickness. These are described by the latter in the 'Philosophical Transactions' for 1727, no. 397, p. 222. f. 23; and re-described and figured by Colonel Hamilton Smith as those of Bos Arnee in *Griffith, A. K.* iv. t. 201. f. 2, 3.

Dr. Hook read a lecture on Mr. Doyle's horns at Gresham College, and thought they were probably those of the *Sukotyro* or *Sucotaria*, No. CCLXXXV. — Proceedings of the Zoological Society.
described by Nieuhoff in his ‘Voyages and Travels in the East’ as found in Java. He compares the horns to the tusk of the elephant, which they somewhat resemble. Dr. Shaw thought otherwise, and formed a genus for Nieuhoff’s animal, making a figure of it from his description (see General Zool. 1. 226. t. 65). Illiger considered it more probably a Babyrusa. See Illiger, Genera Mam. 100.

2. Characters of six new species of the genus Thamnophilus. By Philip Lutley Sclater, M.A.

(Aves, Pl. LXXIX—LXXXII.

1. Thamnophilus transandeanus.

Supra niger; subitus albus; tectricibus alarum superioribus et caudae inferioribus nigris albo terminatis; cauda nigra rectricibus albo maculatis; rostro et pedibus nigris. 

Long. tota 8′1, alae 3′7, caudae 3′2 poll. 


Obs. Similis Thamnophilo majori, sed tectricibus subcaudalibus nigris albo terminatis et rectricibus non albo guttatis.

2. Thamnophilus leuchauchen. (Pl. LXXIX.)

3 Pileo cristato cum lateribus capitis et gutture antico ad medium pectus nigris; nucha, cervice laterali et corpore subitus albis; dorso murino-brunneo; alis caudaque nigris albo limbatis; rectricibus unius utrique extimae pogonio externo medio et omnium apicibus albo maculatis; rostro et pedibus nigris.

♀ Crista ferruginea; subitus ochraceus, gutture nigro striato, lateribus capitis et nucha ochraceis nigro mixtis.

Long. tota 6′4, alae 2′8, caudae 2′5. 

Hab. in Peruv. Orient., Chamicurros. Mus. P.L.S. 

Obs. Affinis Th. atricapillo, Vieill., sed rostro minore, lateribus cervicis et corpore subitus albis neque cinereis, dorso clariore brumneo et gutturali nigro non in ventrem producto distinguendus.

3. Thamnophilus albinuchalis.

3 Supra murino-brunneus; nucha late alba; dorsi medii pennis albo mixtis; capite summum cristato nigro; alis fuscis, tectricibus albo limbatis; cauda nigra, rectricum omnium apicibus et unius utrique extimae pogonio externo albo maculatis; subitus albus; gutture et pectore antico nigris; capitis lateribus albo mixtis.

♀ Supra brunnescenceior, capite et cauda tota rufo-ferrugineis; nucha et corpore infra ochraceis. 

Long. tota 6′5, alae 3′2, caudae 2′5. 


Obs. Species a Thamnophilo atricapillo nucha alba et colore corpore inferi albo nec schistaceo, a Thamnophilo leuchauchene dorso albo mixto, crassitie majore, et nucha candidiore distinguendus.
TEAMNOPHILUS MELANONOTUS, Sclater.
THAMNOPHILUS NIGROGINEREUS Sciator.
4. Thamnophilus melanonotus. (Pl. LXXX.)

Niger; interscapularibus albo mixtis; dorso postico cinereo; ab- 
domine cinerascenti-albo; alis nigris albo marginatis; cauda 
nigra, rectricibus omnibus apice et extima utrinque laterali 
etiam pogonio externo medio albo maculatis; rostro et pedibus 
nigris.

Long. tota 6'5, alæ 3'0, caudæ 2'5.

Hab. in Nova Grenada, Santa Martha. Mus. P.L.S.

Obs. Affinis Thamnophilo atricapillo, sed dorso nigro.

5. Thamnophilus nigrocinereus. (Pl. LXXXI.)

Cinereus, capite toto cum dorso summo et gutture nigris; in- 
terscapularibus basi albis; alis caudaque nigrantibus, albo 
limbatis; rectrice una utrinque extima media albo notata; 
rostro et pedibus nigris.

Rufo-brunnea; gula et ventre medio albescentioribus; alarum 
tectricibus secondariisque et cauda sicut in mari albo notatis.

Long. tota 5'75, alæ 3'8, caudæ 2'4.

Hab. in Brasilia boreali, Para. Mus. Brit. et P.L.S.

Obs. Similis Th. naevio sed multo major; rostro fortiore et gutture 
nigris.

6. Thamnophilus cæsius. (Pl. LXXXII.)

Lanius cæsius, Cuv. in Mus. Paris.

Nigro-plumbeus; pileo cristato gulaque nigris; tectricibus 
alaribus anguste albo limbatis; cauda nigrante unicolori; 
rostro pedibusque nigris.

Grisescenti-brunnea, crista nigrante; capitis lateribus, tec- 
tricum alarum marginibus et corpore subtus rufis; rostro nigro, 
mandibula inferiore basi et pedibus pallidis.

Long. tota 5'5, alæ 3'25, caudæ 2'25.

Hab. in Guiana Britannica. Mus. Parisiensi et P.L.S.

February 13, 1855.

John Gould, Esq., F.R.S., in the Chair.

The following paper was read:—

Descriptions of some New Species of Cleridæ, 
collected at Singapore by Mr. Wallace.

By J. O. Westwood, F.L.S. etc.

(Annulosa, Pl. XXXVIII.)

Having lately submitted to the notice of the Zoological Society a 
memoir containing descriptions of fifty new species of Cleridæ, na-
tives of Asia, Africa and Australia, selected from the cabinets of our most zealous collectors of exotic Coleoptera, I could have had but little hope of being able in a few months' time to record the existence of a number of additional species of the same family, from one of the same quarters of the globe. Nevertheless, the indefatigable exertions of Mr. Wallace, who has recently started on a natural-history excursion to Singapore and the islands of the Eastern Archipelago, have enabled me to give a supplement, containing not fewer than twelve new species, to my former memoir, all of which were collected by that gentleman within a few days after his arrival at Singapore; proving how rich must be the harvest which he is likely to reap, should his health be spared, in that and the adjoining countries. The species of Cleridae which he has sent home furnish us with a clue to several important points connected with the geographical distribution of the family in question, belonging as they do exclusively to two genera, Omadius and Stigmatium, which are thus proved to have their metropolis in that quarter of the world. It is true that the species now about to be described do not possess the splendour of many of the Brazilian, or even European species of the family, their specific distinctions consisting of variations in the markings of the elytra, which it is almost impossible to describe in words, and which can only be satisfactorily represented by careful figures. Some variation in form also occurs in several of the species, and I have also observed variations in the structure of the antennae in most of the species beyond what might be regarded as sexual. One of the species of Omadius is especially distinguished in this respect, from having several of the central joints of the antennae furnished with long curved setae, such as I have not elsewhere observed.

Mr. Wallace has not at present supplied any notices of the habits of the species received by his agent in this, his first consignment; but as all the specimens are specifically numbered, I have no doubt that he possesses notes concerning them with which I hope to be favoured before this article goes to press.

From the specimen now given an idea may be obtained of the richness of the collection which Mr. Wallace has already formed. I may allude, however, to the families Carabidae and Anthribidae, which contain many new and remarkable forms, especially among the smaller species. We may therefore trust, that when he reaches Borneo and the adjacent islands, we shall receive from thence many very interesting novelties.

Genus Stigmatium, G. R. Gray.

1. Stigmatium ignavum. (Pl. XXXVIII. fig. 1).

*Piceo-ferrugineum, punctatum, undique luteo-griseo sericeum, setisque longioribus sparsis vestitum, antennis gracilissimis, elytris punctato-striatis, litera V lutescenti, paulo pone medium disci notatis, pedibus flavidis, femoribus ante apicem tibiiisque pone medium obscure fuscatis.*

Long. corp. lin. 3½.

*Hab.* apud Singapore.
Caput cum oculis latitudine pronoti, nitidum, tenuissime punctatum, sericeum, mandibulis magnis, uncinatis, piccis, nitidis, intus dente forti medio armatis. Palpi pallide lutescentes, maxillares versus apicem magis brunnei. Antennae gracillimae longe setose, fuscse, basi lutescentes, articulis 4–9 elongatis, e basi ad apicem sensim attenuatis, duobus ultimis latoribus, 10 apice subtruncato. Prothorax lateribus rotundatis, pone medium latior, disco in medio subcarinato, carina magis castanea, tenuissime punctatus, sericeus et setosus, ante apicem constrictus. Elytra ad basin prothorace multo latora, e medio ad apicem sensim attenuata, singulo ad basin convexo, punctato-striata, luteo-sericea parum nebulosa, paullo pone medium fascia angulata lutescenti (literam V referente) maculaque angulata subapicali obscura notata. Corpus infra piceum setosum, abdomine rufo, segmentis abdominalis flavido marginatis. Pedes cum coxis 4 anticus luteo-oblidi, femoribus posticis crassioribus, omnibus ante apicem obscurius fasciatis tibiosque basi et pone medium obscurioribus; tarsi brunnei; oviductus feminae exertus gracilis, abdomine longior.

2. Stigmatus torulentum. (Pl. XXXVIII. fig. 2).

Ferrugineum nitidum sericeum, antennis gracilibus nigris, elytris punctato-striatis, macula obliqua subhumerali, fascia obliqua submedia (ad suturam interrupta), maculis duobus magnis pone medium apicibusque nigris, coxis femoribusque albidis, his apice piccis, tibias tarsisque castaneis.

Long. corp. lin. 3.  
Hab. apud Singapore.

Caput latitudine prothoracis, obscure ferrugineum nitidum, sericem; mandibulae nigræ acutæ; palpi lutescentès, maxillares apicem castanei; antennae graciles nigres artculis duobus basalisibus pallidis, articulis elongatis compressis 4–9 versus basin latoribus, ad apicem sensim attenuatis, duobus ultimis latoribus elongato-ovalibus. Prothorax convexus lateribus rotundatis, paullo pone medium latior, antice et prope basin constrictus. Elytra elongata, e basi ad medium lateribus fere parallelis, hinc ad apicem rotundato-attenuatis, ferruginea nitida aureo-sericeaque striato-punctata, singulo macula marginali subhumerali, altera magna triangulari submedia in fasciam angulatam, ad suturam interruptam intus extensa, tertia magna inter medium et apicem, apiceque ipso nigris.

Corpus infra rufo-piceum, subsericeum, abdomem avara tum. Coxæ quatuor anticecum omnibus femoribus albidis, horum apicibus piccis; tibiae et tarsi castanei.

3. Stigmatus fervidum. (Pl. XXXVIII. fig. 3).

Piceo-castaneum, luteo-sericeum, albidoque setosum, antennis graci- libus pallidis, apicibus paullo obscurioribus; elytris striato-punctatis obscurioribus, guttis nonnullis seriabitibus inter basin et medium, fascia subrecta transversa pone medium apicibusque sericæa, pedibus luteo-testaceis femoribus basi pullidoribus.

Long. corp. lin. 3–3½.  
Hab. apud Singapore.
Caput latitudine prothoracis, tenuissime punctatum, facie et orbitu oculorum dense albido setosis; mandibulæ castaneæ apice nigrae; palpi lutescentes, antennæ graciles pallide fulvescentes, articulis apicalibus paullo obscurioribus, articulis 4-10 basi ovalibus, ad apicem valde attenuatis, 11mo ovali apice subacuto. Prothorax convexus sericenus tenuissime punctatus nitidus, lateribus pallidioribus et dense albidosetosis. Elytra elongata, subparallelæ, postice rotundata, striato-punctata, sericea, piceo-castanea, lateribus ante medium paullo obscurioribus, inter basi et medium guttis variis irregularibus fasciace subundata pone medium apiceque sericantibus. Corpus infra castaneum punctatissimum; abdomen aurantio-rufum. Pedes pallide castaneo-fulvi, coxis 4 anticis et femoribus omnibus pallide flavescentibus.

4. **Stigmatium granulosum.** (Pl. XXXVIII. fig. 4).

_Piceum aureo-sericeum; capite pronoto et parte postica elytrorum æneis nitidis, elytris dimidio basali punctato-striatis, spatius inter puncta granulosis, punctis striarum in parte postica fere obliteratis; maculis, fascia undata pone medium apiceque aureosericeis; pedibus rufis, femoribus posticis apice tarsisque nigris._

_Long. corp. lin. 5½—7½._

_Hab._ apud Singapore.

Caput prothoracis latitudine, oculis magnis, æneum nitidum, vertice et hypostomate longe aureo setosis. Antennæ nigrae, articulis duobus basalibus rufis, 3—10 compressis oblongis, e basi fere ad apicem sensim latioribus, apicali elongato-ovato apice subacuto. Mandibulæ nigrae; palpi obscure lutei, maxillares articulo ultimo piceo. Prothorax æneus nitidus tenuissime punctatus aureo-villosus, lateribus rotundatis, medio latior, antice et postice constrictus. Elytra lata, singulo ad basin parum convexo; sutura depressa, dimidio basali rugosa, scil. profunde punctato-striata; spatius inter puncta granulosis; dimidio apicali multo laeviori, macula subquadrate subscutellari, guttis nonnullis ante medium (suturali majore communii); fascia irregulari quasi e guttis tribus angulis conjunctis formata apiceque aureo villoso. Metasternum rufum. Pedes cum coxis omnis rufi, apice femorum posticorum tibisque fuscis. Abdomen cyanenum, segmenti basalï parte antica media attenuata rufa.

_Obs._ Individua majora segmentum penultimum abdominis habent emarginatum et articulos antennarum paullo latiores.

_Var._ Minor et obscurior absque tintura aenea, antennisque paullo latioribus.

5. **Stigmatium cylindrinum.** (Pl. XXXVIII. fig. 6).

_Nigrum nitidum prothorace truncato-ovali luteo villoso, elytrorum humeris fulvis, fascia tenui angulata ante medium, altera transversa pone medium apiceque albis; abdomen nigro, segmento basalì coxisque omnibus luteis._

_Long. corp. lin. 3½._

_Hab._ apud Singapore.
Gracile, subcylindricum, nitidum, sublaeve; capite et prothorace griseo-sericeis. Caput cum mandibulis parvis nigris, tenuissime punctatum; antenæ nigrae articulo basali piceo, 3–10 compressis subovalibus, basi parum attenuatis, 1mm ovali apice attenuato; palpi pallide lutei; prothorax truncato-ovalis; antice latior, valde convexus; versus apicem transverse subcanaliculatus; canali transversa etiam basi præxima griseo-setosus. Elytra elongata subcylindrica nigra nitida, dimidio basali punctato-striata, apicali lutea, humeris vittaque longitudinali fulvis, fascia tenui obliqua ante medium, altera transversa pone medium apiceque albo-sericeis. Thorax infra castaneus; abdominis segmentum basale cum coxis omnibus luteum; segmenta reliqua nigra nitida; oviductus feminae abdomine longior lutescens. Pedes castanei femoribus basi pallidis, 4 posticis apice obscurioribus; tarsis nigris.

6. Stigmatium ambulator. (Pl. XXXVIII. fig. 5).

Caput et prothorace castaneis nitidis, aureo-sericeis longe setosis, antennis gracilimis, articulis tenuissimis; elytris fuscis subæneo-villosis nebulosis; pedibus elongatis gracilibus, femoribus posticis elongato-clavatis.

Long. corp. lin. 3.
Hab. apud Singapore.

Caput castaneum, hypostomate piceo, aureo-villosum, setisque longis vestitum; mandibulae nigrae; antenæ fuscae articulis basalis pallidis, tenuissimæ, articulis fere filiformibus et compressis, ultimo elongato attenuato; oculi magni. Palpi albidí. Prothorax castaneus aureo-sericeus setisque longis vestitus, lateribus rotundatis, in medio latior ante et postice vix transversim impressus. Elytra elongata, fusca sericæ tenui subænea subæneuca setisque longis vestita, dimidio basali lateribus parallelis, apicali sensim attenuatis; punctato-striata; striis ante apicem obliteratis. Corpus infra castaneum. Pedes præsertim postici elongati graciles, setis longis instructi, femoribus cum coxis 4 anticus albidis apicibus piceis; posticis elongato-clavatis; tibiis 4 anticus castaneo-piceis apice lutescentibus; tibiis 2 posticis cum tarsis omnibus castaneis.

7. Stigmatium cursor. (Pl. XXXVIII. fig. 7).

Fusco-luteum, elytris albido nebulosis; oculis maximis, pedibus longe setosis, femoribus duobus posticis valde incrassatis; antennis gracilibus, articulo 10 elongato-triangulari, ultimo elongato ovato.

Long. corp. fere lin. 3.
Hab. apud Singapore.

S. ambulatori brevior femoribusque posticis multo crassioribus. Caput fuscum antice nigrum, luteo setosum, oculis maximis, antice spatio valde angusto inter se separatis, labro fulvo. Palpi lutei; antenæ fuscae articulo basali fulvo; longe setose, articulis 3–9 versus basin latioribus apice acuminatis, 10mm elongato-trigono, 11mm elongato-ovato. Prothorax piceo-brunneus punctatissimus, capite
vix latior, luteo setosus, versus apicem et basin transversim impressus, lateribus rotundatis, ante medium paullo latior. Elytra oblonga subparallela, profunde punctato-striata, fusco-lutea, nitida, sericie albida nebulosis, nebulis fasciam valde irregularem maculosam ante medium alteraque lateris pone medium formantibus apicibusque albidis. Pedes bruneci, albido-sericei, setisque longis nigris instructi, femoribus duobus posticis compressis dilatatis margine postico in medio negro. Corpus cum abdomen nigrum.

Genus Omadius, Laporte.

8. Omadius ctenostomoides. (Pl. XXXVIII. fig. 8).

Niger subcylindricus nitidus, prothorace subaeneo, elytris guttis 6 brunneo-albidis suturaque luteo-sericeis, antennis gracilibus, articulis 9 et 10 sensim latiorebus, 11 brunneo apice luteo, utrinque et medio ad apicem attenuato.

Long. corp. lin. 4\(\frac{3}{4}\).  
Hab. apud Singapore.


9. Omadius fasciipes. (Pl. XXXVIII. fig. 9).

Piceus aureo-sericeus, fascia denudata castanea ante medium, altera latiori irregulari pone medium, tertiaque subapicali, omnibus sutura anguste sericea divisis; pedibus fulvis, femoribus tibisque in medio late nigris.

Long. corp. lin. 3\(\frac{3}{4}\)-5.  
Hab. apud Singapore.

O. Kameliano, White (Cat. Cler. Brit. Mus.) magnitudinie et statuæ aequalis, antennis autem nigris fascisique elytrorum distinctus. Caput piceum aureo-setosum, facie infra oculos lutea, clypeo apice piceo; labro luteo; mandibulae nigrae, palpi pallidi, articulo ultimo apice obscuriore; antennae piceae, articulis duobus basilibus luteis, 7, 8, 9 et 10 sensim latiorebus subtrigonis; ultimo magno compresse ovali. Prothorax oblongus, et capite ad basin elytrorum sensim angustatus, piceus, sub lente punctatissimus, antice transversim striolatus, aureo-serieus, versus caput et basin (hic curvatum) transverse
impressus; elytra capite latiora depressa, in medio latiora, castaneo-picea, striato-punctata; striis fere ad apicem extensis, at pone medium minus distinctis; aureo-sericea, fascia irregulare paullo ante medium, altera latiori paullo pone medium, (lobum semirotundum postice in singulo elytro emittente,) maculisque duabus subquadratis subapicalibus denudatis; pedes fulvi, femoribus tibiisque in medio late nigris, nigredine autem in femoribus 4 anticis infra interrupta. Corpus infra piceum, abdomen fulvo.


10. **OMADIUS VIGILANS.** (Pl. XXXVIII. fig. 10).

*Nigro-piceus nitidus, aureo sericeus, elytris castaneis sericeis,* fascia ante medium (e maculis oblongis formata) altera latiori pone medium tertiaque subapicali denudatis, pedibus fulvis nigro variegatis.

**Hab.** apud Singapore.

*O. bifasciato*, Lap. proximus.

Caput piceum aureo-sericeum, oculi magni nigris, prothorace evidenter latiores, labrum pallidum; palpi lutei apice articuli ultimi obscuriori; mandibulæ nigrae, antennae piceae articulo basali et dimidio 2di fulvis; 7–10 trigonis sensim latoribus, magis laxi, 11mo basi lato, e medio ad apicem utrinque attenuato; prothorax subcyliudricus, versus marginem anticum et basin transversim impressum, impressione postica curvata; elytra castanea, aureo-sericea, humeris, fascia ante medium e maculis oblongis quasi formata, altera latiori paullo pone medium, antice fere recta, postice vero in medio singuli elytri emarginata, 3tia lata curvata in medio sutura sericea divisa, denudatis et colore obscurioribus; striato-punctata, punctis in dimidio basali elytrorum majoribus. Pedes fulvi femoribus in medio fascia nigra notatis, in 4 anticis subitus interruptis, tibiis omnibus et basi ultra medium nigris tarsorumque articulis basaliibus piecis, coxis et trochanteribus 4 anticis fulvis, 2 posticis piceis. Corpus infra piceum, metasterno rufo bimaculato; abdomen rufo-fulvum.

11. **OMADIUS SETICORNIS.** (Pl. XXXVIII. fig. 11).

*Picus aureo-sericeus prothorace oculis latiori, antennis in medio longe setigeris; elytris basi, fascia angusta media, altera sub-apicali apiceque flavidis, ad basin granulato-striatis; pedibus rufo-castaneis, tarsis nigris.*

**Hab.** apud Singapore.

Præcedentibus crassior: caput piceum aureo-sericeum, calypeo labroque pallidis; mandibulæ nigrae; palpi lutei, apice articuli ultimi obscuriore; antennae nigrae, articulo basali fulvo, 4 et 6 setas longas curvatas emittentibus, 6–10 sensim majoribus obconicos, ultimo ovali compresso, apice extremo subattenuato; prothorax oblongus, antice
capite paullo latior, postice sensim attenuatus, versus marginem anticum et basin transverse impressus, parte antica transverse striolata; medio disci linea tenuissima lævi elevata; elytra elongata, subdepressa in medio latiora: punctato- striata, punctis minutis; interstitii inter puncta ad basin elytrorum in tuberula parva (in lineas 4 singuli elytri) elevatis; picea, basi anguste pallidior, fascia tenui valde irregulari inter basin et medium, altera undulata media, tertia latiori subapicali apiceque ipso aureo-sericeis; pedes castanei, tarsis omnibus, apiceque tibiarium 2 posticarum nigris; corpus infra piceum, metasterno late castaneo, abdomen basi luteo.

12. **Omadius clytiformis.** (Pl. XXXVIII. fig. 12).

Elongatus subcylindricus obscure piceus aureo subsericeus; capite postice, apice elytrorum, femoribus basi et infra flavis; elytris sericie aurea reticulatis.

Long. corp. lin. 7.

Hab. apud Singapore.

Præcedentibus longior et subcylindricus. Caput cum oculis prothorace latitudine fere æquale, oculi magni fere contigui; occipite pilis flavis dense obsito, facie griseo-setosa; palpi pallide lutescentes, apice fusci. Mandibulæ nigræ; antennæ nigræ; articulis 3–10 sensim majusculibus triangularibus, 11mo magno compresso e basi ad apicem sensim angustato parum curvato, apice rotundo; prothorax subcylindricus, parallelus, antice et postice linea transversa impressus, supra sub lente tenuissime transversim striolatus, subsericeus, sericie aurea densiore versus angulos anticos: elytra elongata, subcylindrica, picea, opaca, puncto parvo pallido basali intra humeros apiceque pallido fulvo-sericeo, disco, presertim pone medium, lineis tenuibus sericis reticulata. Corpus infra nigrum, griseo-setosum; pedes 4 antici coxis albidis, trochanteribus piceis, femoribus infra pallide flavis, supra cum tibis et tarsis piceo-nigris; pedes 2 postici cum coxis et trochanteribus nigro-picei, femoribus basi pallide flavis.

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February 27, 1855.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The Chairman communicated the following extract from a letter he had received from Francis Brent, Esq. of Folkestone:—"The fishermen bring into Sandgate, Kent, hundreds of immense Conger Eels, which they pick up at sea, off Dungeness. Most of them are dead, but some only nearly so. The frost appears to have destroyed them. Some of them are very large indeed. On Thursday last (the 22nd of February 1855), several tons were brought in by the boats, and sent off to the London markets." By the papers it
1 Pterocles exustus. 2 Pterocles quadricinctus.
appears, that the Red Mullet and other fish were found dead about
the same time in Southampton Waters.

The following paper was read:—

1. Notes on the Habits of Some Indian Birds. Part VII.
   By Lieut. Burgess.

(Aves, Pl. LXXVIII.)

Subfamily Proceropidae.

Genus Upupa.

Upupa epops. Hoopoe.

In the upper portion of the Deccan the Hoopoe is a common bird,
frequenting gardens and woody spots, and is very partial to sandy
plots of ground, particularly outside the walls of villages. In such
places the sand is perforated with the conical holes of the ant-lion,
and that this is the food sought for by the Hoopoe in these spots, I
discovered on opening the gizzard of one, which was of a very soft
texture, and contained one large grub and two or three ant-lions.
The Hoopoe breeds in the months of April and May, building its
nest in holes in the mud walls which surround towns and villages in
the Deccan. I transcribe a note taken on 7th May 1850 on the
subject:—“To-day a man brought me word that about fifteen or
twenty days ago he found a pair of Hoopoes breeding in a hole in
the walls of a town; the nest contained two young birds; it was
composed of grass, hemp, and feathers. The same man tells me
that he has discovered another pair building.” The head man of
the town of Jintee brought me an egg of the Hoopoe, which has un-
fortunately been broken. It was of a very pale blue, or rather skim-
milk colour. He found a nest in a hole in a fort wall; it was made
soft with a few pieces of hemp, and contained three eggs.

Tribe Fissirostres.

Family Meropidae.

Genus Merops.

Merops indicus. Common Indian Bee-eater.

A common bird in the Deccan, but remarkable for its brilliant
plumage, and active fly-catching habits. It chooses for its perch
the outside twig of a tree, whence it makes its forage amongst the
insect tribes that are brought out by the morning beams. The Bee-
eater breeds during the months of April and May, laying its eggs in
holes in banks. On the 13th May 1850, I found a pair of these
birds breeding in a hole in a bank; the hole was more than an arm’s
length in depth. At the bottom of it I found three young birds,
one very small, with scarcely any feathers on it; another somewhat
larger, and the third of considerable size and pretty well fledged.
There was no nest.
That birds of this genus migrate, I had a convincing proof when returning to England in 1852. When about half way between Bombay and Aden, on the evening of either the 8th or 9th May, a large flock of Bee-eaters was observed fluttering about the ship, some three or four of which were caught after dusk, when they had settled on the ropes and shrouds. I obtained three or four for the purpose of preserving their skins, but in the confusion occasioned by a shower they were unfortunately thrown overboard. They were larger than *Merops indicus*.

**Family Halcyonidae.**

*Genus Halcyon.*

*Halcyon smyrnensis.*

This and the black and white Kingfishers are the most common of their tribe in the Deccan, frequenting almost every stream and nullah. The former breeds during the month of May in holes in the banks of rivers, laying as many as seven eggs. They are of a beautiful pinky tinge, owing to the colour of the yolk showing through the thin delicate shell. The egg is about the size of that of the little Indian Owl (*Noctua indica*).

**Family Caprimulgidae.**

*Genus Caprimulgus.*

Of the eggs of these birds, of which there appear to be several varieties in India, I merely subjoin a note made by Mr. Jerdon from Mr. Elliott's notes. He states, that he once found the eggs of the common species, two in number, placed on the ground without any nest. They were pink, spotted with brown.

**Family Hirundinidae.**

*Genus Cypselus.*

*Cypselus affinis.* **White-rumped Swift.**

I should certainly say that this is a common bird in the Deccan, about the city of Ahmednuggur. I have seen their nests crowded together under the roofs of old buildings, choultries and temples, and obtained the nest and eggs from a rock in the range of hills about twelve miles from Ahmednuggur, on the road to Aurungabad. This nest was obtained on 21st September 1849. It was built of mud and lined with grass, and contained two white eggs. The eggs are considerably elongated in form.

*Cypselus palmarum,* Hardw. **Balasian Swift.**

This Swift, according to General Hardwicke, builds its nest on the

* This Swift builds twice during the year; I obtained a nest and eggs in September, and also found a nest with young birds in April.
leaf of the palm. Dr. Jerdon says that it “is common in all the districts of India, except on the bare table-land.” I have, however, never met with its nest or eggs.

**Genus Hirundo.**

**Hirundo filifera,** Stephens.

This very handsome Swallow breeds in old temples and under projecting stones in wells and banks of streams. On 28th January 1850, I found the nest of this species built in an old well under a large stone, near the water; the nest was not domed, but open, and the young ones, three in number, exposed to view. On 1st April 1851, I took an egg out of a nest of this Swallow; the nest contained three. The old birds began building about 15th March; the nest was composed of mud, lined with a few fibrous roots and feathers; it was built under a stone in the bank of a stream. The egg is \( \frac{8}{9} \)ths of an inch in length, by rather more than \( \frac{5}{6} \)ths in width; white, spotted with two shades of red-brown, the spots forming a broken belt round the larger end.

**Order Rastores.**

**Family Pavonidæ.**

**Genus Pavo.**

**Pavo cristatus. Common Peafowl.**

Peafowl abound in the jungles clothing the slopes of the Ghauts, and in some wooded districts in the interior. In the Deccan, in the wooded hilly portions of the districts of Jamkhair and Scogao they were plentiful, and a remarkably pretty sight it was to see them stalking about near the grain stacks, or running along the bushy banks of the nullahs. They are wary birds, and lead the sportsman a good chase when once they take to the low spurs of the hills, up which they run with incredible swiftness. The best plan to secure them is to wait for their roosting time, under the trees to which they resort. Thick mango trees appear to be their favourite resting-places. Peafowl breed at the end of the monsoon, in the months of September and October, laying, I am told, from three to five eggs, of a buffy white colour, 2 inches and nearly \( \frac{5}{6} \)ths in length, by 2 inches and nearly \( \frac{10}{16} \)th in width. The nest is said to be composed of grass, and formed on the ground amongst bushes.

**Genus Gallus, Briss.**

**Gallus Sonneratii,** Temm.

As I have not been fortunate enough to obtain the eggs of this jungle fowl, I have again recourse to my friend Dr. Jerdon's notes. He says, “I once found the eggs of this fowl, seven in number, on
the ground in dense jungle at the foot of the Neilgherries. They were of a light pinkish-cream colour."

**Family Tetraonide.**

**Genus Tetrao.**

**Subgenus Pterocles.**

**Pterocles exustus. Common Whistling Grouse.**

This Grouse is common in the open plains of the Deccan, flying in flocks, and, as Colonel Sykes has remarked, announces its approach by its peculiar and piercing cry. I believe that this Grouse breeds during the greater part of the year. Eggs of this species (I believe) have been brought to me from the month of December to May. The Common Whistling Grouse lays three eggs in a slight hollow on the bare ground, and the colour of the eggs so much assimilates with that of the sandy ground on which they are laid, that it is very difficult to find them. The egg sent (Pl. LXXVII.) is, I believe, the egg of this species. It measures $\frac{1}{4}$ths of an inch in length, and 1 inch and rather more than $\frac{1}{10}$th in width, and is of a stone colour, thickly spotted and blotched with grey and olive-brown. I have in my collection several eggs of the Sand Grouse, which vary much in their size and markings.

**Pterocles quadricinctus. Painted Whistling Grouse.**

This handsome Grouse frequents the low stony hills so common in the Deccan. It is not nearly so common as the last mentioned. I succeeded in getting two or three pairs, by waiting for them at a piece of water whither they used to come at dusk to drink. This Grouse most probably breeds at the same time and lays the same number of eggs as *P. exustus*. Many eggs of birds of the subgenus *Pterocles* were brought to me by the people in the districts, but as they are not generally very accurate observers, and call both *P. exustus* and *P. quadricinctus* by one common name, they could not tell me to which they belonged; but from my own observations, and the notes of Dr. Jerdon, I believe the egg sent with this paper is that of *P. quadricinctus*. Dr. Jerdon says, "I have lately got the eggs of this species, also very similar to the other, but rather smaller, and with the spots fewer and larger."

**Genus Perdix.**

**Perdix picta.**

I met with the Painted Partridge in the grassy valleys near and amongst the Western Ghauts near Nassick, in the thickly planted and rich gardens, and in one of the districts between the Godavery and the Bhoom rivers. In the latter district the Shikaries brought me several pairs alive. Its very peculiar cry is heard at a considerable distance. When out shooting in a valley amongst the Ghauts, I saw one calling when perched on the low stump of a tree. Dr.
Jerdon says, "It breeds during the monsoon, lays six or seven eggs of a smoky bluish-white colour, of an oval form, much depressed at the thick end."

Subgenus Francolinus.

Francolinus ponticerianus. Common Partridge of India.

This Partridge is found amongst bushes and underwood, but is particularly fond of thick grassy hedges round garden plantations. It is found either singly or in pairs. The Grey Partridge breeds during the months of February and March, laying its eggs, seven in number, in grassy spots, hedgerows, and amongst bushes. The egg is of a rich stone colour, 1 inch and $\frac{1}{16}$ ths in length, by 1 inch and $\frac{1}{16}$ th in width, but they vary considerably in colour and size. This Partridge is by no means a shy bird, but, on the contrary, appears to prefer fields and gardens near towns and villages to less frequented spots. By some it is called the Scavenger Partridge, but I believe there are no grounds for such a term being applied to it; its flesh is very fair eating. The crop of one which I shot was full of bajecco and small seeds.

Francolinus spadiceus. Spur-fowl.

I procured a specimen of the Spur-fowl on the Ghauts at Khandalla. It was flushed in a garden, and betook itself to a tree in which I shot it. Its gizzard contained a quantity of earth, some small stones, and small brown seeds. I was informed by a Shikarie that they breed in the months of February and March in thick jungles, making their nests on the ground or in thick close bushes, and laying three white eggs.

Subgenus Coturnix.

I herewith forward an egg, in itself a bad specimen, but the only one I was able to procure, and which I believe to belong either to C. dactylisonans, the large grey Quail, or to C. textilis (Temm.). I believe the egg to be that of the latter, as if C. dactylisonans be identical with the English Quail, the egg should be of a yellowish or dull orange-coloured white, blotched or speckled with umber-brown, whereas the egg now sent is of uniform buff, merely spotted and discoloured by a long exposure to wet.

Coturnix Argoondah (Sykes). Rock Quail.

This pretty little Quail, as its name implies, is an inhabitant of stony hills and bushy sides of streams and nullahs. It lives in bevis, and is to be met with in company with the grey and black-breasted Quail. The Rock Quail breeds generally during the months of November and December, but I have had its eggs brought to me as late as March, and have procured a young bird well fledged as early as 20th November. It does not, I believe, lay more than four eggs, as on three different occasions I have had that number brought to me, and on a fourth, four young ones just fledged were brought
to me when out quail-shooting. The young were covered with down, and had the appearance of being powdered. The egg of this Quail is of a pale buff colour, 1 inch and $\frac{1}{15}$th in length, by $\frac{3}{16}$ths of an inch in width.

I take this opportunity of bringing to the notice of the members of this Society distinguishing marks between the Rock Quail and the Grey and Black-breasted Quail, and of proposing that the former species should not be confounded with the two last. The distinguishing marks of the former, the Rock Quail, are the stoutness and depth of the beak in proportion to its length, the much more rounded form of the wing, the secondaries and tertials being much more equal in size with the primaries than those of the Grey and Rain Quail; the much more defined scaly protection of the legs and feet in the Rock Quail, and what I believe the most distinguishing mark, the smaller number of eggs laid by the Rock Quail. I believe that the Grey and Rain, or Black-breasted Quail, lay eight or nine eggs, the Rock Quail not more than four.

March 13, 1855.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. **Notes on the Habits of some Indian Birds. Part VIII.**
   
   By Lieut. Burgess.

   Family Struthionidae.
   
   Genus Otis.

   **Otis nigriceps** (Vigors). **Black-headed Bustard.**

   This fine Bustard is found in flocks, varying in size, in the open plains of the Deccan, preferring the dry grassy and stony grounds to others. It grows to a large size; one fine male which I measured was 7 feet across the wings, and 46 inches from the tip of the beak to the end of the tail. This Bustard may almost be said to breed all the year round. I have had an egg brought to me in February, another on the 4th May, containing a young bird. A gentleman on the Revenue Survey told me that he had seen a young Bustard, covered with down, in the early part of October. I have had a young bird brought to me late in November, as well as eggs in November and December. The female generally lays but one egg. A. F. Davidson, Esq., Superintendent of the Ahmednuggur Revenue Survey, told me a curious habit of the male Bustard. He says, "About breeding time the male is fond of mounting some elevated spot, and then strutting about with the tail erected and spread, the wings drooping,
and the pouch in the throat inflated with air, and looking like a large bladder; under the hillock where the male was thus displaying himself were several young ones.” In corroboration of this, a boy told me on the 17th May 1850, that about four days previously he had seen a Bustard, with a white-looking bag hanging below the neck. I see in Dr. Jerdon’s Catalogue, that he gives an extract from Mr. Elliot’s notes to this effect; speaking of the cock Bustard, he says: “He was strutting about on some high ground, expanding his tail, ruffling his wings, and distending his neck and throat, making the feathers stand out like a ruff.” I do not find it recorded that the large Bustard of Europe (O. tarda) has this habit of showing himself off during the breeding season. The egg of the Black-headed Bustard varies in size; the one sent with this paper measures \( \frac{3}{16} \)ths in. in length, by \( \frac{2}{16} \)ths in. in width. It also varies in colour; the general colour is a brownish olive, dashed with pale brown. One egg which I had was of a nearly uniform palish blue. The egg now sent was found in a grassy spot on 18th December. As everything relating to this noble bird is interesting, I give a description of a young one brought to me on 28th December 1849. It stood about 10 inches in height; its beak was of a dirty whitish colour, nostrils large; irides clear pale hazel, and eyes very large; back mottled, very much as in the old birds, as also the wing feathers; front of the neck pale yellowish-brown, with a dark streak running down the sides; legs dull yellowish-white, feet the same, knee-joints very thick; there was down on the neck. This was quite a young bird, very feeble on its legs, and barely able to stand. The Black-headed Bustard utters, when frightened, a harsh barking note. Its flight is like that of the Heron, a steady flight, sustained by the continued flapping of its large wings.

Otis Aurita (Lath.). Florikin.

I have not met with the Florikin sufficiently often to allow me to enter into the argument as to whether the Black Florikin is the male bird in its breeding plumage, or a distinct species from the common brown Florikin, but Dr. Jerdon’s arguments in his “Illustrations of Indian Ornithology,” appear conclusive, that the black and brown are one and the same bird in different states of plumage. But this point might soon be set at rest, by sportsmen and ornithologists in India ascertaining whether the black plumaged birds are ever met with during the cold weather and spring. That the male of the Little Bustard (Otis tetrax) should to a certain extent assume this black plumage during the breeding season, affords strong ground for the supposition that the Black Florikin is the male in his nuptial dress. The Florikin breeds during the end of the monsoon, laying three eggs of a dark olive-green colour, spotted and dashed with light brown, \( \frac{1}{16} \)ths in. in length, by \( \frac{5}{16} \)ths in. in width, the greatest width being about the centre. The egg now sent was procured with two others early in September. An officer, who was out shooting, put up a Florikin and killed it, and on going to the spot where she rose, found three eggs. I had two specimens of the Florikin sent No. CCLXXXVI.—Proceedings of the Zoological Society.
to me, both males, one in beautiful black plumage on 2nd October, the other in the brown plumage on the 4th February.

**Family Columbidae.**

**Genus Columba.**

**Columba cenas. Blue Pigeon.**

This Pigeon is very common in the Deccan, inhabiting holes in old forts, walls, temples and wells. It breeds during the cold season, laying two white eggs. Holes and ledges in wells are its favourite resorts for breeding. The egg measures $1\frac{4}{5}$ths in. in length, by 1 inch and nearly $\frac{2}{5}$ths in width, and is of a clear shining white. An egg is sent with this paper; it was taken from a well on the 8th December.

**Genus Turtur.**

**Turtur Cambayensis.**

Of this Dove, Dr. Jerdon says in his notes,—"This little dove abounds over most of India, both in low jungles and near villages and cantonments, being found, especially towards the north, in every garden, and frequenting stable-yards, horses, &c." It is, I believe, the same as the small Dove to which—not knowing that it had been previously named—I gave the name of the Vinous-necked Turtle, on account of the colour of its neck. If this be the case, it breeds during the month of March, building its nest in low bushes, and laying two white eggs, rather more than $\frac{9}{10}$ths of an inch in length, by nearly $\frac{9}{10}$ths of an inch in breadth.

**Turtur rioria.**

This Dove is considerably larger than the last, and is easily distinguished by the white crescent on its neck, like the Wood Pigeon of this country. It abounds in every place; amongst the prickly-pear hedges and thickets near villages, in groves of babool trees, and bushes. Its half plaintive, half laughing note, is heard as soon as it becomes light, and if the trees over your tent happen to be its resort, it is anything but conducive to sleep. This Turtle breeds during the cold season, building in low babool trees; its nest is composed of a few twigs and pieces of grass. It lays two white eggs, $1\frac{4}{5}$ths in. in length, by rather more than $\frac{9}{10}$ths in width.

**Order Grallatores.**

**Family Ardeaæ.**

**Genus Grus.**

**Subgenus Anthropoides (Vieillot).**

**Grus Virgo. Demoiselle Crane.**

This Crane visits the Deccan during the cold weather, but sometimes remains as late as May. I saw a large flock of them on the
river Seena, near Waterphul, as late as 24th May, and was told that one had been brought into the cantonments of Almednuggur as late as 12th June, but I never heard of any remaining to breed. It would be most interesting to find out their breeding haunts, their manner of nesting, and the number and colour of their eggs. The greater portion leave the Deccan at the end of March or beginning of April, and return at the end of November. They feed in the grain fields, retiring to the larger rivers about ten o'clock, where they may be seen standing in large flocks in the shallows.

Genus Ardea.

Subgenus Ardea.

Ardea cinerea (Lath.). Common Heron.

A tolerably common bird in the Deccan, frequenting tanks and rivers. I found two nests in a tall peepul tree on the 27th February; one contained the egg sent with this paper, the other was a nest just finished, and contained no eggs. This bird is considered, I believe, to be identical with the English Heron; it most probably therefore lays four or five eggs, as Mr. Yarrell states that the English Heron does. The egg is a uniform sea-green colour, $2\frac{4}{5}$ths in. in length, by 1 inch and rather more than $\frac{1}{10}$ths in width.


By Dr. John Edward Gray, F.R.S., V.P.Z.S., P.B.S. etc.

MM. Agassiz and Desor have given the generic characters and a list of the species of *Echinida*, but do not divide the genera of the normal division into families. I propose to divide them into the following groups.

The *Echinida acrocytos*, or those which have a vertical dorsal vent, a regular globular body, with an inferior central circular mouth, armed with conical jaws, furnished with five elongate acute teeth, and with the ambulacra forming continuous vertical bands from the mouth to the vent. They may be divided into the following families.

I. Tubercles of spines perforated; spines elongate; body circular.

Fam. 1. Cidaridæ.

Ambulacra narrow, formed of double pores; interambulacral plates few, with a single large tubercle; spines thick, solid.

1. Cidaris. Tessera even-topped.
2. Goniocidaris. Tessera bevelled on the edge.—*G. pistillaris*.

Fam. 2. Diademæ.

Ambulacra narrow, of one series of double pores; interambulacral plates numerous, with two or more rows of tubercles; spines slender, often tubular.
1. Astropyga. Body depressed; ambulacral area with very small crowded tubercles, bearing very thin spines, much smaller than the interambulacral spines and tubercles; interambulacral area with smooth bands.

2. Garelia. Body depressed; ambulacral area narrow, with two or four series of small tubercles, and thin spines; interambulacral area with oblique series of large tubercles and spines, but without any smooth band; spines tubular.

3. Diadema. Body globular or subdepressed; ambulacral area with the same sized tubercles and spines as the interambulacral area.

II. Tubercles imperforated.

Echinidae, Gray, 1828.

Fam. 3. Arbaciadæ.

Ambulacral area narrow; ambulae narrow, with a single series of double pores; body circular; spines short, solid.

1. Agarites. Upper surface of the interambulacral area without tubercles.

2. Arbacia. The upper and lower surface of the interambulacral area covered with tubercles.

Fam. 4. Hipponoidæ.

Ambulacral area as wide as the interambulacral; ambulae wide, formed of three separate vertical rows of double pores. Body circular; shell thin.

1. Amblypneustes. Body high; porous zones not quite regular; mouth small, entire.—*A. ovum.*

2. Boletia. Body depressed; porous zones regular, inner separated by a vertical series of tubercles; mouth very large, with five deep slits.—*B. pileolus.*

3. Hipponoë (Gray, 1841). Body swollen; two outer porous zones regular; middle one interrupted; mouth small, slightly cut.—*H. Sardica.*

4. Holopneustes. Body swollen; two outer porous zones regular; middle one separate or interrupted; mouth small, entire.—*H. poris-simus.*

Fam. 5. Echinidæ.

Ambulacral area half as wide as the interambulacral area, with two (or three) close series of double pores, placed in threes; buccal membrane naked; body circular.

A. With angular pores at the junction of the plates.


B. Without any pores at the angles of the plates.

Fam. 6. Echino Metrae.

Ambulacral area only half as wide as the interambulacral area; ambulacral pores in groups of four or more, forming an arched series round the ambulacral tubercles.

A. Body circular.


B. Body oblong.

2. Echinometra. Spines subulate, subequal.
3. Holocentronotus. Spines of back elongate, subtriangular; of the oral side large, spathulate.
4. Colobocentrotus. Spines of the back very short, truncated; of the oral side spathulate.

Dr. Gray described the following species, which he regards as new, from the British Museum Collection.

Genus Cidaris.

* Spines smooth or granular.

1. Cidaris ornata.
Depressed. Tubercles of interambulacral area rather distant; spines lanceolate, subulate, depressed, white, red-ringed; base with series of small red spots, and with regular longitudinal series of granules; each side with one, and the upper surface of the base with two series of white angular spines; spinules white, with a central red streak.
Hab. East Indian Seas.

** Spines verticillate-spinose.

2. Cidaris verticillata.
Depressed. Interambulacral tubercles rather far apart; spines of upper surface rather elongate (about as long as the diameter of the body), subulate, smooth; some subulate at the top, others with scattered conical spines, others obliquely truncated, cupped, and spinose at the tip; spines of lower surface shorter, cylindrical, truncated, granular near the tip; those of the oral surface much spotted, truncated, compressed and largely granular near the end.
Hab. —?

3. Cidaris annulata.
Orange. Rather depressed. Interambulacral tubercles of moderate size, far apart; spines elongate, subulate, tapering, red and white ringed; suprabasal ring white; with longitudinal ridges. The ridges of the lower half of the spines spinulose and with scattered larger spines; sometimes placed in lines. The dorsal spines sometimes truncated and slightly cupped at the tip; ambulacral spinules narrow, flat.
Hab. West Indies.
4. *Cidaris spinulosa.*

Interambulacral tubercles small, very far apart; spines elongate, fusiform, red-brown, with close squamose longitudinal ridges and scattered subverticillate acute and small spines; the dorsal spines truncated, cupped and spinose at the end; ambulacral spinules narrow.

*Hab.* ——?

**Genus Astropyga.**

5. *Astropyga depressa.*

Shell depressed, very thin; ambulacra swollen; interambulacral area with a very wide smooth band in the middle and on each side of the upper part; the lower part of the centre of each area with *three* oblique series of larger tubercles; ovarian plate broad, triangular.

*Hab.* ——?

**Genus Garelia.**

Ambulacra broad; the pairs of pores crowded, so as to form two, or rarely three, series; ambulacral area narrow, upper part with four series of small, and lower part with two or four series of rather larger tubercles; spines of ambulacral area bristle-like, very slender; interambulacral area with several oblique series of larger tubercles, without any smooth band on the back near the crown; ovarian plates moderate, triangular.

* Ambulacra convex, area linear, spines elongate, subulate, hollow, covered with whorls of lanceolate scales.


Ambulacra convex; ambulacral area with two series of tubercles, the outer series rather the largest, rather narrowed below; upper side of ambulacral area with 5.5 oblique series of larger tubercles; ovarian plate elongate trigonal; spines purple, or purple and white ringed.

*Var. a.* With spines pale, white ringed.

*Var. β.* Spines purple; underside obscurely pale banded.

*Var. γ.* Spines purple, not banded.

*Hab.* Mauritius.

** Ambulacra flat; area wide, with four or five series of spines, near vertex narrow, with two series of tubercles below; spines subulate, tapering, longitudinally striated.

7. *Garelia clavata.*

Interambulacral area with four oblique series of larger tubercles; ambulaera slightly raised; the upper part of the area near the crown broad; each side with two or four or six series of small tubercles; the lower part narrow, with a single series of rather larger tubercles.
Genus Toreumatica.

* Transverse sutural grooves wide and deep; back granular.

8. Toreumatica Hardwickii.
Transverse sutural groove deep, wide; tessera of interambulacral area high, about twice as broad as high, with one large and several scattered unequal smaller tubercles.
Hab. ——? Presented by General Hardwicke.

** Transverse sutural grooves narrow and small; back equally granular.

Transverse sutural groove narrow and shallow; interambulacral tessera with a subcentral row of large, and numerous nearly equally scattered smaller tubercles. Near the circumference the secondary tubercles become more distinct. Base concave.
Hab. ——?

*** Transverse sutural grooves indistinct; back equally tubercular.

10. Toreumatica Reevesii.
Depressed, thin; tessera of interambulacral area with a single series of large, and several unequal-sized smaller tubercles. Under side rounded, concave in the middle; ambulacral area with two, interambulacral area with three rows of subequal tubercles; holes between tessera distinct, between ambulacral tessera circular and deep.

**** Transverse sutural grooves indistinct; back with a smooth band, near the suture between the interambulacral areas.

11. Toreumatica concava.
Depressed, thin; middle between two interambulacral areas on the back smooth; interambulacral tessera with a few unequal tubercles near the ambulacra. Under-side deeply concave, largely tubercular; ambulacral area with two, interambulacral with three series of large tubercles.
Hab. China.

3. Extracts from the Letters of Dr. Henry Gould, relating to the Natural History of Western India. Communicated by his Father, J. Gould, Esq., F.R.S.

The following extracts have been placed at the disposal of the Society at the urgent request of the Secretary, because he fully appreciates the value of original observations so clearly and naturally expressed, and because he hopes that the appearance of this record of them will induce corresponding members of the Society in other parts of the world to occupy themselves in a similar manner.
The first of Dr. Gould’s letters is written from Bombay, and dated—

Feb. 26, 1854.

Within two yards of my tent, as I write, are several species of birds. 1st, The hoopoe (*Upupa Senegalensis?*), very tame, and perching about at my feet, within reach of a stick. 2ndly, Two species of wagtail, white and grey, fighting with the hoopoe: sparrows innumerable, but different from ours; they are perched in a cluster on a trelliswork at the tent-door. Two crows are sitting on the tent-peg, one on each side of the entrance; a bird called “mino” here (*Pastor Mahrattensis?*) is feeding two yards off; whilst another pretty black bird, with a long tail, published in one of the numbers of the ‘Birds of Asia,’ is pluming its feathers within arm’s length. Kites here are as common as crows,—literally in hundreds, performing the office of scavengers.

Bombay, March 7, 1854.

Ornithology, you may be sure, will not be forgotten. The following species have already fallen to your gift of a double-barrelled gun. Firing into the midst of a flock as it swept by, I dropped four of the *Pastor roseus* in very fine plumage. Kingfishers are common and very beautiful; *Nectariniae* also, of which I shot several, but have no means of determining the species at present, my books not having arrived. A fine collection of these beautiful birds could be made here. King crows are to be found everywhere: what is their scientific name *?* Sandpipers are as common and tame as larks. The Bulbul (*Pycnonotus jocosus?*) abounds, and commits sad havoc in the gardens; several species of wagtail, to me unknown, various raptorial birds, &c.

Last Monday I paid a visit to Elephanta. It contains many birds, strange and new to me,—plenty of pigeons, doves, parrots, and numerous pretty finches; and horrible thickets of Euphorbia, the prickles of which pierce clothes, boots, and the juice stings your eyes, if by chance it gets in them.

Kotree, opposite Hyderabad,
April 17, 1854.

The men went on shore to cook their suppers before it became dark, whilst the officer in command and myself went for a stroll with our guns. The ground was covered with sandpipers, curlews, terns, gulls, spoonbills, flamingos, herons, ducks, and, in fact, every species of water-fowl. We tried for the ducks, but they were very shy; and after an hour’s wading, I got a shot at a brace of shieldrakes flying overhead. Firing right and left, I killed one and wounded the other (not bad for a beginner). They are fine birds, very similar, if not quite the same, as our own species. Mr. Lewis knocked over a shoveller, and that was the extent of our sport. In the winter-time the ducks and other wild fowl congregate here in thousands upon thousands, and no place could be better adapted for them. There are some very pretty river terns, and a most lovely kingfisher; but I

* Dierurus macrocercus.
am in such a delightful state of ignorance as to what birds are scarce and which well-known, that I skin but few; and no one in the Presidency understands or cares the least for them; and as for books, the word "ornithology" is not comprehended. The first numbers of the 'Birds of Asia' would be of very great assistance, as also Colonel Sykes's Catalogue. Your works have been very much admired by all who have seen them.

I shot some of the famed black partridge of Scinde, *Francolinus vulgaris*, which you must know well. It is a very handsome species. As a bird for the table, it is excellent, the flesh white and delicate. I also shot a very fine plover with a coral-red fleshy expansion extending from the eye over the forehead, and meeting on the opposite side. The throat and chest are black, legs yellow, eye dark brick-red. What is it? I have its egg. The bird is common enough here. I have also the egg of an *Oedicnemus*. What species are there of this genus? The egg is very similar to that of our own in England. The last day of the voyage great excitement was caused by the appearance of alligators in the river. They are common above Hyderabad, and ugly green-looking beasts they are, crawling about on the sand-banks. But the peculiarities and the lions of the Indus are the *pullah* and the *pullah*-fishers. The *pullah* is a much-esteemed fish, said to be found only in the Indus: it is something like the grey mullet in appearance, and in taste little better than a mackerel, but is thought a great deal of. Every one eats *pullah*. It is caught in the following manner, by a particular caste of natives brought up to the business. A large earthen-vessel is procured, shaped like a lentil-seed, with an aperture at the top; the vessel is about a yard in diameter, and half a yard deep, the orifice 8 inches across. This of course floats on the water, and will sustain a considerable weight. Pushing it off from the side, the fisherman throws himself on his belly across it, and so closes the aperture with his body, thus forming a kind of boat, which is propelled by the motions of the arms and legs, as in swimming. This buoys him up on the rapid stream, and prevents his being swallowed up by the eddies of the river, and also enables him to use his net, which is stretched across a kind of fork attached to the end of a long pole. This machine is held perpendicularly in the water,
stream. The pullah, lying head up, cannot see the net, from the muddiness of the water, so that it comes upon them unawares. The fisherman feels a tug, and instantly closes the net by means of a string he holds, and the pullah is caught. The next process is to haul him up, and stick the poor brute with a skewer, whilst still in the snare; then taking it out, and shifting his belly to one side, the pullah-wallah drops the fish into the pot and resumes his agreeable employment. Having floated some miles down-stream, he paddles to shore, shoulders his support and net, and walks back again to the point from which he started, repeating the whole process again and again, from morning to night, from youth to old age, earning a few anas per diem.

Kurrachee, May 4, 1854.

In this letter Dr. Gould gives a journal of his overland journey from Hyderabad to Kurrachee.

April 18.—Up at sunrise; went out for a walk; saw a few hares, but no black partridge; shot some pigeons for breakfast. The country is very sandy, with here and there patches of jungle; returned at 7, very hot and much disgusted. The village consists of about four huts and twice that number of inhabitants, and yields wood and water to the traveller, but no provisions of any kind. At 8 o’clock, was glad to retreat into one of the pigeon-holes of the Dhum-sallah, an outline of which I send you.

April 20.—The station, which is called Hulliaga, being placed in the midst of a capital shooting-ground, the first sound that struck me on awaking was the loud call of the black partridge all around the Dhum-sallah. They are very difficult to get within range, from their habit of running before the sportsman, and seldom rising. In order to get a “bag,” you must have at least a dozen beaters. I managed, however, to kill a brace, after much labour and walking. The jungle here is very thick, and full of birds, hares and snakes; for the latter of which, including large boas, it is particularly celebrated; parakeets are also very plentiful. Dined sumptuously on pullah and black partridge, both of which are capital; and, in a cool climate, where the partridge could be kept for a week or two, it would be quite equal to gelinotte; the flesh is plump, white and well-flavoured.
Ghiznee Sanatorium, June 1, 1854.

The only birds are the sand-grouse and a species of lark, the crows and sparrows even contemptuously avoiding such a dried-up place; about two miles distant is a creek banked with rocks, which is a favourite resort for water-fowl. In my pursuit of natural history this morning, an accident happened which I am afraid will lose me a good servant. A pair of hawks had built their nest in the rocks, about fifteen feet from the ground, and my gharawallah (groom) declared that nothing would be so easy as to take it, and that he could climb up the side of a house; so I sent him up, but when within a few feet of it he screamed out and fell; he afterwards stated that the devil (shitan) came behind and pushed him off; the fall would have been nothing on soft ground, but the poor fellow fell across a stone and injured his spine; I had to gallop into camp and fetch a palanquin and four men to bring him into hospital, where I am now treating him. The hills hereabout abound with jackals and hyænas, and one of the latter came within the tent-ropes last night after my unhappy goats; the barking of the dogs awoke me, when I saw him gazing affectionately at my throat, not two yards distant; a clout on the head with a stone sent him off.

I should like to start in the month of December to the Lake Munchar, beyond Hyderabad, where, during the winter, is to be found a reunion of all the water-fowl in Scinde: I am told that the ducks, geese, cranes, and, in fact, all the natatorial and wading-birds congregate there in immense numbers; thence to Luccur and Shikarpore, shooting all the way. I should then wish to explore an entirely new country, zoologically speaking,—Khelat—the temperature of which is somewhat similar to our own, freezingly cold in winter, with a delightful spring; it is well-wooded, and doubtless contains much of interest to the naturalist; with introductions from the Commissioner, I believe I should be well treated by the "Khan;" the only difficulty is to reach it. From Jacobabad to Khargarth, our extreme frontier military post, there are two routes, one by the well-to-be-remembered Bolan Pass (eide the march of our troops to Cabul), and the other by Gundawa and the Gundawa Pass. By the Bolan, the chances are about equal whether I should get through or have my throat cut, for the Khan cannot control the fierce Beelooch hill-robbers, although his own subjects; they would attack anything under the force of fifty men; by Gundawa the road is tolerably safe, being under the influence of the Scinde horse; that is the road I should take. It is seventeen days' march between Jacobabad and Khelat, which I should reach at the commencement of spring, and a month or six weeks' stay would enable me to ascertain the zoological resources of the country, after which I should return to Kurrachee and resume my medical duties. This leave I do not wish for any private, but for a scientific purpose, and the collections I may make would be sent, after any novelties had been described, to the Company's house in Leadenhall Street, or such of them as they may want for their museum; everything, however, must depend upon circumstances.
It may be interesting to you to know that a fine Houbara Bustard (Otis Macqueeni) is very common here during the winter; it is much sought after by the officers, and considered fine "shikar" or sport; my tent is pitched in the midst of the Houbara ground. A very pretty small species of deer is also common in this neighbourhood; it is about the size of a gazelle, with sharp straight horns, is very difficult of approach, and incredibly fleet; I suppose it is well known; will you inquire, and let me know its name? the young are sold in the Bazaar at one rupee each and soon become very tame; I have one now that is allowed to wander about at pleasure, and which invariably comes to sleep in my bed at night; any number of beautiful Amaduvades may be bought in the Bazaar at one penny per pair, and Parrots at fourpence each; if the means of transit were easy, I could send home a gross of these small birds.

I will now give you a short account of an excursion to a well-known spot called "Munghur Peer" or the "Munghur Talou," Anglice Holy Alligator or the Alligator Tank. Some time ago, a very holy Mussulman pitched upon this oasis as his dwelling-place; a pure spring flows from a rock in a valley surrounded by immense barren volcanic hills, forming part of that range of rugged mountains which is seen so conspicuously from Kurrachee; the spring above mentioned vivifies a small extent of surrounding country, nourishes groves of date palms and banian trees, and encourages the cultivation of various fruits and vegetables; the old gentleman, finding that he had fallen into a good berth, sanctified it: here he lived and died, after which happy release his body was conveyed to the top of an awfully high rock and there buried; his faithful disciples erecting a large tomb over his remains: this is said to be a fine work of art, but I have seen no one who has had the courage to ascend and inspect it. The spring after his death became more holy than before, and a tolerably-sized mosque was built over it; a large stone tank with steps was constructed for it to flow into, and the overflowing surplus water now forms a marsh or pond which is full of small islands a few feet distant from each other, and it is in the water between these that the alligators are to be found; there are several hundreds of them, varying in size from 6 inches to more than twice as many feet; they live in a state of great fraternity; their calm serenity being only disturbed by that most useful dispersion of providence, the larger devouring the smaller ones; they are considered most holy by the Mussulmen and are actually worshipped by them; in which, however, they slightly depart from the precepts of the Koran, which says, "La Ala ila allah—Mahomed rosoul allah," the famous profession of the Mussulman faith. From most of the districts of Scinde, the natives make pilgrimages to these beasts, throwing goats to them as peace offerings; the inhabitants of the small village adjoining the mosque feed them regularly, and are great in the odour of sanctity. Should a little native urchin be swallowed, through his indiscretion venturing too near, they say his is a happy kismet or fate, for he is sure of paradise. The brutes do not confine
themselves to the water, but wander among the palm trees and low bushes, and wherever a sahib discovers a cool retreat, there a large alligator is sure to be found, and before a transfer of seat can be effected, must be fought and dislodged, or run away from, if he charges. Not long since one of them killed a man, upon hearing which two officers resolved to take vengeance, and accordingly, in spite of military prohibition, shot the delinquent, whereupon all the crazy and bigoted inhabitants turned out to avenge the insult, and had they not been well armed it would have gone hard with the sacrilegious scamps. These holy reptiles are not without their royal family, of which, however, there exists at present but one lineal descendant, by name moor-sahib, who is the acknowledged king of the alligators; although superior to his subjects not only by his descent but by his enormous size and appetite, he is but a little in size, and a trifler as regards his powers of eating, compared with his late sainted and lamented sire, concerning whom the inhabitants of the village relate marvels of masticatory prowess. The present king does not associate with his subjects, but is built into a large underground tank covered above by masonry; in the roof of this palace is a hole something like, but rather larger than, that into a coal-cellar; when his majesty is to be fed, his attendant threshes the water with a long stick through the hole in the roof; and the well-known sound brings him to the surface, where, without condescending to unclose his eyes, he opens an enormous pair of jaws and waits patiently till the delicate morsel, such as half a donkey or a goat, is dropped into them; the jaws instantly close with a terrific snap and the royal personage disappears from sight.

The rains have just set in here;—very pleasant for those who live in houses, but quite the contrary for poor wretches who, like myself, are under canvass; my tent will stand two days' rain well enough, but after that it begins to feel moist, gradually-increasing puddles make their appearance below, and water drips in from above; but one hot day makes all dry again. After a shower your tent becomes the refuge of all the vermin in the neighbourhood; snakes, scorpions, centipedes, frogs and lizards occupy the dark corners, whilst all attempts at reading or eating by night are frustrated by the countless myriads of large ants, from half to one inch in length, that fly into every habitation, and cover the lamps, table-cloth, books, &c., smother your shirt and collar, get down your back, and after having caused an immense deal of annoyance and inconvenience, leave their wings as a parting present and crawl away; so that in the morning the tables, chairs, and other furniture, and the floors are found strewn with these relics. A very beautiful ground spider makes its appearance after the rains; it is about the size of a bean, and of the most splendid scarlet, resembling velvet in appearance and lustre; it is seen at no other time, and is apparently driven from its underground retreat by the rain.

Ghiznee, August 15, 1854.

Ghiznee is not the locality from whence to supply you with much information as regards Scinde; its natural products being but few;
in the absence of anything of greater moment, perhaps you would like to know something of the domestic resources of Kurrachee and the circumjacent country. Substantials in the shape of beef and mutton are plentiful and cheap; the latter is small, very small, a leg weighing about four pounds, but it can occasionally be had somewhat larger; its price is one ana per pound. The sheep are celebrated for their tails, which are of an enormous size, and one mass of fat. Good beef is also to be had at the same price as mutton. Kid's flesh is not despised, and one day in the week pig is converted into pork; but our friend so much relished in England is but little honoured here, none but the very lowest castes condescending to touch him, and his very name being an abomination; so if you wish to irritate a native, hint at the "suer," in connection with himself, and the required irritation will be immediately produced. Fowls are brought into Kurrachee in vast numbers, and fetch four anas (sixpence) each. Ducks can be obtained at a little higher price, but are considered by the Mahometan population as unclean. Turkey being an expensive luxury, is only produced at mess on great nights. Pigeons are very plentiful, but are not worth eating, besides being considered holy by some of the castes. The sea and harbour supply us with fish in any quantity and of every size; many species are brought to market, from the Sardine to the noble "Seer" fish, which is about the size of a cod and superior to it in flavour. Oysters are abundant, and when in season rival "real natives;" for one hundred you pay sixpence. The pearl oyster, although not eaten, is eagerly sought after for its precious contents. Magnificent prawns, of doubtful feeding, are caught in numbers, and are sold at the ridiculously low price of one ana (three halfpence) for two pounds weight; they grow to an enormous size, some being 7 or 8 inches in length, but the smaller ones are the best.

Ghiznee, Sept. 20, 1854.

You will be pleased to hear that I have just received a long letter from Mr. Blyth, of Calcutta, who evidently opines, that, having been brought up in the halls of science, I must be thoroughly acquainted with its long-named treasures—painful delusion!—and quite easily requests me to procure for him species of the Soricidae, Erinaceidae, Hypsipidae, Malacoercidae, and many others; all which I would most readily do. But what sort of a beast is an Erinaceus or a Malacoecerus, still remains a profound mystery to me, and is likely to be, until I get hold of a treatise on hard names which will unravel the secret; for if it be supposed that such knowledge ought to come by the "light of nature," I can only say that she has not as yet illumined me by her countenance. This is why I requested a treatise on the science of ornithology. I shall get on better when I receive my books. Mr. Blyth wishes a correspondence to be kept up between us, and of course I shall be happy to promote his views in every way I can.

Shark-fishing is going on actively at present; they are caught in large nets, which are dragged across the harbour. The species is the ground-shark, the fins of which are considered a great delicacy
by the Chinese; and it is to supply them that the sharks are captured.

Enclosed is a curious little bird which I shot on the sea-shore. What is its name*? It frequents the low salt marsh plants that grow at the edge of and even in the water. It is extremely difficult to shoot, and when shot, equally hard to find; it runs among the roots, and occasionally perches on a twig, gives forth a wheezy feeble song, and instantly drops into the thicket. The eye is dark.

Ghiznee, Oct. 5, 1854.

The warm weather has given life to numbers of the dragon-fly family, but their short life is cut still shorter by the numbers of birds that come, self-invited, to the feast; shrikes, bee-eaters, hoopoes, stone-chats, wheatears, willow-wrens, and many other species, have now appeared about the rocks, where, a month since, nothing but a lark was to be seen. Terns, that before could only be found at sea, now come wandering over the land, and, hunting up and down, soon fill their stomachs with the delicious morsels; even the very cheels (kites) have given up their carrion-feeding propensities. The consequence of this good feeding is very distressing to the collector, for the birds become so fat that it is almost impossible to skin or preserve them: my servant is in despair, and brings me a mass of oily feathers as the result of an hour’s labour. Is there any remedy? Large flocks of cranes are continually passing over my tent, “en route” to the Indus. Geese have been seen, and I myself have fired at ducks, all which are indications of approaching winter; wading-birds of all kinds are now exceedingly common, but very difficult to procure, for they congregate on large open flats left at low water, and cannot be approached. The salt-water creeks too, in which they are to be found at certain stages of the tide, are quite exposed and without cover on their banks; so that if by dint of great care and caution you can manage to get within 300 yards of the water, you are then sure to hear some small plover or sanderling set up his shrill piping, to which that wariest of birds, the curlew, immediately responds, and away seuds every feather in the creek, leaving you to expend your vexation and charges upon the crabs and mud. There is one crane in particular that I have been after many times; he is a very cunning old gentleman, and evidently fond of a joke; he knows exactly how far a gun will carry, allows me to approach, by dint of much knee-grazing and elbow work, to within 100 yards of him, and then, rightly imagining that a nearer proximity would be dangerous, gives a hoarse chuckling laugh, and, after four flaps of his enormous wings, is hopelessly gone; but I will be even with him some day.

Enclosed you will find a rough sketch of a thrush-like bird killed by me yesterday; it is the only one I have seen, but my servants know it well, and state that it is a beautiful songster. If you can make out the species from my drawing, I should like to know its name†.

* Suya lepida, an extremely rare bird in the collections of Europe.
† Certhioides bifasciata, or an allied species.
"O me miserum! O me, miserabile dictu!!" a dire misfortune has befallen me. One morning, while pursuing my friend the crane, I broke the stock of my gun, or rather the horse broke it for me. As you may expect, I was much annoyed; first, because it was a present from you, and secondly, because the gun was a capital one to shoot with, and I was rapidly improving in the art. As it is impossible to get a new stock in Kurrachee, I have been obliged to expend £30 in the purchase of a fresh gun, and have obtained an excellent one with double barrels for shot and rifle fitting the same stock; I will send my lame gun back to Fisher’s to be restocked.

Mr. Frere has, I believe, very kindly written to Lord Elphinstone respecting my journey to Khelat, and has also offered the services of an excellent person in his pay to accompany me; with this assistance, if leave be granted me, I hope to make a good collection, and do some service to science; I intend shooting everything that comes in my way, and it will be your task to determine whether anything be new or otherwise. You will say, this is rather Don-Quixotish; but the sight of a fine country will quite recompense me for any little self-disgust at the butchering nature of my propensities; all for science, "ça va bien," the healing pill is swallowed. I wish that you could be with me, the trip would then be a great treat, and I might learn something. Please to let me know how to make "damper," as, if I go, I shall have to be my own baker for a few months; I should like to know this by return of post, and also to receive any other hints your bush experience enables you to give. As I have before said, if I am allowed to take this journey, I shall proceed as soon as another assistant-surgeon has been found to supply my place. Towards the end of next month, on the approach of winter, all the regiments will be on the move: ours, it is expected, will be ordered to Hyderabad, and the fusiliers will supply our place at Kurrachee; the 83rd are ordered to Deessa in Gujerat, a frightfully hot place, but with capital shooting; for there abound the Indian lion and tiger, antelopes, and Sambur deer, and buffaloes are seen in great numbers; the artillery will proceed to Poona, and the 14th Native Infantry to Shikarpore, her Majesty’s 86th having the doleful prospect of Aden before them. Mr. Frere starts for his annual tour of the district on the 2nd of November, taking with him a good hunter and stuffer; he has requested me to let him know what objects are most desirable for the advancement of science, which, as you are aware, he is always anxious to promote; he has already sent considerable collections to the Norwich museum.
March 27, 1855.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The Chairman read the following extract from a letter received from Francis Brent, Esq., of Sandgate, giving some further particulars regarding the destruction of the Conger eels by the late severe frosts. The letter was dated: —

Sandgate, 25th March, 1855.

You seemed to take some little interest in the account of the Conger Eels, so I will send you a few additional particulars. The oldest inhabitants recollect only two other occasions on which the fish in the sea were killed by the frost, one about thirty years and the other twenty-two years ago; indeed then the destruction was not nearly so great as during the present winter. Some of the eels were five and six feet long, and weighed between fifty and sixty pounds. One boat went out, and in three or four hours the crew picked up 800 eels. They were mostly found near a feeding-ground called the Diamond-bank, but were more or less all round the coast: some of the sailors here say, they have seen conger eels which had been killed by the cold floating in the North Sea, but never in the Channel. The only other fish that seem to have suffered were the mullet, many of which were found in Southampton harbour. Twenty-two years ago, the gurnets also were destroyed. The eels were all found with head and tail under water, part of the belly and vent at the surface, the whole fish bent almost into a circle. The fishermen say that the conger-eel is a very clean-feeding fish, and will only take live bait or flesh that is quite fresh. He feeds at night and near the surface of the sea, and some of the men attribute the destruction to the fact that the cold acted upon the creatures' vents, in proof of which they assert that the vents always presented a different appearance from the other part of the body, and that decomposition invariably commenced there. Others affirm, that the cold attacked the swimming-bladders, and so prevented the fish from sinking, and thus they perished from not being able to get into a warmer current of water than was to be found at the surface.

At first only a few of the fishermen would pick them up, as they said they were not fit for food; but some having been sent to London, a person there immediately telegraphed that he would purchase any quantity that could be procured, without reference to what state of freshness they were in. He boiled them down and made gelatine of them. It was, however, almost too late, for the wind changed almost immediately after his message was received, and the eels either sank from their air-bladders bursting or were carried out to sea.

Dr. Gray also stated that in a shallow pond in front of Lord John Russell's house in Richmond Park, all the freshwater fish, including carp, tench, roach, eels, and the frogs and toads, were killed by the frost in February 1855; and numerous specimens were roting on No. CCLXXXVII.—Proceedings of the Zoological Society.
the bank. He had observed the freshwater fish similarly killed in a pond near Beddington, Surrey.

Mr. Gould exhibited a small collection of birds from Scinde, being the first of his son’s contributions to Indian ornithology, and remarked, that although there was nothing new among them, still they comprised several species which are of interest from the circumstance of their being rare both in India and in the collections of Europe.

The following is a list of the species:—

Cypselus affinis, Gray.
Suya lepida, Blyth.
Certhilauda dumetorum, Stanley.
Galerida Chendoola, Blyth.
Calandrella brachydactyla, Blyth.
Saxicola atrogularis, Blyth.
Saxicola picata, Blyth.
Pratincola indica, Blyth.
Malacocercus caudatus, Dum.
Ploceus Manyar, Horsf.
Actitis hypoleuca, Linn.
Sterna —— ? like S. minuta.

The following papers were then read:—

   By Dr. J. E. Gray, F.R.S., V.P.Z.S., P.B.S. etc.

In the following observations I shall confine myself to the genera of Volutes which form the tribe of Volutina; they are particularly characterized by having the sides of the base of the siphon furnished with an auricle; the tentacula far apart, united together by a broad veil, forming a hood over the head; and the eyes situated far back, behind the base of the small tentacles.

I am induced to make these observations, founded on the magnificent collection of specimens in the British Museum collection, because, though Professor Schumacher, and Messrs. Swainson and A. and H. Adams have arranged the species of the family, the genera they have used have not been founded on any consideration of the modifications of the animal, but solely on the external conformation of the shells themselves. I have considered this revision the more necessary, as in more than one instance these authors have regarded as belonging to different genera, shells which I am inclined to believe are only varieties of the same species.

1. The animals of the greater part of these genera have broad teeth, with a more or less lunate base, and with three large acute lobes at the apex.

1. Some of these animals are viviparous. The shell of the very young animal has a very large irregular callous tip, which forms a permanent nucleus to the shell. The foot is large, and without any operculum.
1. Yetus.

The shell ventricose, covered with a horny periostraca, which is more or less covered in the different species with a polished shelly coat, deposited by the expanded mantle. The spire is short, and irregular; the aperture expanded.

The animal is large, compared to the size of the shell, when expanded. It is ovoviviparous; the young when born being of a large size, and covered with a shell with a large irregular callous apex. The foot is large, partly covering the shell, which is sunk into its substance. Operculum wanting.

Confined to the coast of Africa and the shores of the Mediterranean.

The best character for the distinction of the species of this genus depends on the extent which the mantle covers the shell, shown in the shells themselves by the size of the polished coat. Unfortunately, the original surface, indicating the extension of the mantle over the surface of the shell, in this and other genera of this family, is often destroyed in cabinet specimens, even in the most recently-formed collection, which greatly deteriorates from their scientific value, and great care should be taken to observe that the specimens desired to be determined have not been injured in this respect.

Mr. Adams, by some oversight, observes, when referring to this genus, "These shells are uniform in colour, sombre, covered with an epidermis, and with a deciduous nucleus." (Genera, 159.) Several species are marbled; some have the epidermis covered with a glassy coat; and I am not aware that any shell has the nucleus deciduous, much less this genus, when they are enclosed by the older whors.

A. The only species found in the Mediterranean has a narrow deep channel near the suture; the shell is one-coloured, and the left side of the mantle and inner lip of the shell is much expanded over the last whorl.

1. Yetus Olla.

*Voluta Olla*, Linn.
*Voluta papillaris*, Gmelin.
*Cymbium Olla*, Menke, Adams, 150.
*Cymba Olla*, Brod., Sow. Spec. Conch. 7. f. 1 a, b, c, d.
*Cymbium papillatum*, Schum. 237.
*Hab.* Mediterranean.

B. The species found on the coast of Africa have a broad wide channel on the suture of the shell. They may be divided into three groups:

* The left side of the mantle and the inner lip of the shell rather expanded; the shell is mottled.

2. Yetus Navicula.

Spire short.
*Voluta Navicula*, Gmelin.
Voluta Pepo, Solander.
Cymbium Neptuni, Menke.
Hab. W. coast of Africa; Gambia.

3. Yetus Cymbium.
Spire subconic.
Voluta Cymbium, Linn.
Cymbium Cisium, Menke.
Cymba Cymbium, Sow. Gen. f. 2; Brod., Sow. Spec. Conch. f. 9
a, b, c, d.
Cymbium Cymbium, Adams.
f. 23.
Cymba rubiginosa, Brod. f. 7 a, b, c, d.
Cymbium rubiginosum, Adams.
Var. β. Spire produced, conic.
Cymbium gracile, Adams.
Cymba gracilis, Brod.; Sow. Spec. Conch. f. 8 a, b, c, d.
Hab. W. coast of Africa; Gambia.

** The left side of the mantle and the inner lip of the shell much expanded over the last whorl; the shell one-coloured.

4. Yetus Neptuni.
Voluta Neptuni, Gmelin.
Voluta Auguria, Solander.
Cymba Neptuni, pt., Brod., Sow. Spec. Conch. f. 2 c, d.
Voluta glans, Gmelin.
Cymbium patulum, Adams.
Cymba Tritonis, Brod., Sow. Spec. Conch. f. 3, 3 a, b.
Cymbium Tritonis, Adams.
Hab. W. coast of Africa; Gambia.

*** The left side of the mantle very much exposed, and, like the inner lip, covering the whole outer surface of the shell; shell plain-coloured.

5. Yetus proboscidalis.
Philin, Adans. Seneg. t. 3. f. 2.
Voluta proboscidalis, Lamk.
Cymbium proboscidale, Adams.
Cymba proboscidalis, Brod., Sow. Spec. Conch. f. 5 a, b, c, d;
Sow. Gen. f. 3.
Voluta porcina, Lamk.
Cymbium porcinum, Menke.
Voluta Scapha, Solander.
Cymba porcina, Brod., Sow. Spec. Conch. f. 6 a, b, c, d, e, f, g, h, i, k.
Hab. W. coast of Africa; Senegal; Gambia.
2. The animals of the other genera are oviparous, the eggs being deposited in cartilaginous egg-cases like those of the other zoophagous mollusks. The shell of the just-hatched animal has a regular or subregular spiral tip.

A. The mantle of the animal is enclosed, and the inner lip of the shell is defined, or only slightly expanded.

a. Some have a ventricose shell, with a large expanded aperture, and five or six strong subequal plaits on the pillar. Foot large, and no operculum.


Shell ventricose, covered with a hard horny periostraca; the spire short, depressed, often sunken; aperture very large, expanded.

Cymbium Indicum, C. tessellatum, C. Æthiopicum, C. Diadema, and C. armatum are found in the Indian Ocean, and probably on the north coast of Australia; C. Broderipii at Manilla; C. Miltonis in Swan River, Western Australia; C. Georginae and C. umbilicatum in Moreton Bay, on the eastern coast of Australia.

In 1833 I described and figured three new species of this genus in the Mollusca plates to Griffith's translation of Cuvier's 'Animal Kingdom,' under the names of Melo Miltonis, M. Georginae and M. Broderipii. About the same time Mr. Broderip prepared an essay on the genus, which was printed some time after the above publication, as he refers to the species and figures. It was to appear in the 2nd part of Mr. G. B. Sowerby's 'Species Conchyliorum;' but this part was not published then. At Mr. Sowerby's death in 1854, Mr. Lumley, the second-hand bookseller, appears to have purchased the plates and text, as far as they had been prepared, from the executors of Mr. Sowerby, and published it on the 1st of March, 1855. This part contains the text without the figures of the genus Melo, the plates without the text of the genus Cyclostoma, and the plates and text of the genera Amphidesma and Terebellum.

† Spire enclosed, unarmed.

1. Cymbium Melo, Menke.

Melo indicus, Brod.; Adams.
Voluta indica, Gmelin.
Voluta Æthiopica, var. γ, Born.
Voluta Melo, Solander.
Voluta præputium, Chemn.? (Junior).
Hab. Indian Ocean.
†† Spire exposed, not produced, surrounded with arched spines.

§ Shell pale yellow, with two or three bands of square dark spots.

Spines broad at the base, decumbent.

2. **Cymbium tessellatum**.
   *Melo tessellatus*, Brod.
   *Voluta tessellata*, Lamk.; Swainson.
   *Voluta Haustrum*, Soland. MSS.
   *Cymbium æthiopicum β*, Schum. N. S. 237.
   *Melo tessellata*, Adams.
   Hab. Indian Ocean.

§§ Shell brown or pale with angular brown lines; spines spreading.

   Cinnamon-brown, sometimes two-banded.
   *Cymbium coronatum*, Martini, iii. f. 784.
   *Voluta Æthiopica*, Linn.
   *Melo Æthiopicus*, Brod.
   *Cymbium Æthiopicum*, Schum. N. S. 237; Menke.
   *Melo Æthiopicus*, Adams.
   Var. β. Spines decumbent.
   *Voluta Nautica*, Linn.
   *Melo Nautica*, Brod.; Adams.
   *Cymbium Nauticum*, Menke.
   Hab. Indian Ocean?

4. **Cymbium Diadema**.
   Chestnut, white-marbled. Spines short, rare.
   *Melo Diadema*, Brod.
   *Voluta diadema*, Lamk.
   *Voluta amphora*, Soland.
   Hab. Indian Ocean?

5. **Cymbium armatum**.
   Orange, white-marbled. Spines elongate, straight.
   *Melo armatus*, Brod.
   *Voluta armata*, Lamk.
   *Voluta Cithara*, Soland.
   *Voluta ducalis*, Lamk.
   *Cymbium ducale*, Menke.
   Hab. Indian Ocean?

6. **Cymbium Georginæ**.
   *Melo mucronatus*, Brod. 1855.
   *Melo mucronata*, Adams.
   Hab. Moreton Bay; Blackwood Bay; Port Essington.

7. **Cymbium umbilicatum**.
   *Melo umbilicata*, Adams.
   Hab. Moreton Bay.
These species, or rather presumed species, appear to be varieties of the same kind, peculiar to certain districts of the Indian Ocean. If we select certain specimens of each, they appear very distinct; but if a large number of specimens of different ages, from various localities, are arranged together, the differences gradually merge into each other, and it is difficult, if not impossible, to separate them from one another. In the younger specimens the spines are generally distinct and crowded; sometimes they enlarge more rapidly than the rest of the shell as it increases in size; in other specimens, after a time they suddenly cease to be developed, and the larger external whorls are not armed behind.

+++ Spire exposed, convex, large, crowned with numerous small, rather inflexed spines.

White, with chestnut lines or spots; young shell concentrically sulcated; hinder part of the whorls near suture crenulate.
Melo regius, Brod. 1855.

+++ Spire produced, conic, armed with compressed inflexed scales.

Melo Miltonis, Gray, G. A. K. t. 29, 1833.
Melo cylindratus, Brod. 1855.
Hab. Australia; Swan River.

b. Shell ovate or fusiform, covered with a thin periostraca; aperture moderate.

§ Pillar with four or five strong well-defined plaits. Operculum none. Foot moderate.

3. Scapha.

Shell ovate or fusiform. Periostraca thin, smooth. Spire conic; aperture moderate; inner lip smooth, defined, pillar 5- or 6-plaited. Operculum none.

† Nucleus or shell of the very young animal very large, irregularly spiral.

1. Scapha Mamilla.
Nucleus very large, subglobose, apex of spire lateral.
Voluta mamilla, Gray, Sow. Conch. Thes. 207. t. 50. f. 57, 58.
Cymbium mamilla, Adams, 159.
Hab. Australia; Van Diemen's Land.

2. Scapha Dubia.
Nucleus large, rather irregular-shaped, spiral apex acute.
Voluta dubia, Brod., Zool. Journ. iii. 81. t. 3. f. 1; Sow. Conch. Thes. 209. t. 55. f. 115.
Fulguraria (Aurinia) dubia, Adams, 166.
Hab. —— ? Cab. Roussel.
†† Nucleus large, pale, regularly spiral, crenulated.

   Voluta pellis-serpents, Lamk.
   Voluta mitis, Lamk.
   Cymbiola mitis, Swains. Malac. 317.
   Voluta serpentina, Lamk.
   Aulica vespertilio, Adams, 161.
   Hab. Indian Ocean; Amboina.

4. Scapha pulchra.
   Voluta pulchra, Sow., Tank. Cat. t. 4. f. 2; Conch. Thes. t. 51. f. 62; Wood, Cat. Supp. f. 6.
   Aulica pulchra, Adams; 161.
   Hab. North-east coast of Australia; Heron Islands.

5. Scapha nivosa.
   Aulica nivosa, Adams; 161.
   Cymbiola nivosa, Swains. Malac. 317.
   Hab. Australia; Garden Island; Swan River.

   Voluta nivosa, Wagner.
   Aulica Norrisii, Adams.
   Hab. Australia; Dupuch Islands, on reefs at low water.

7. Scapha rutila.
   Voluta aulica, Kiener.
   Aulica rutila, Adams, 161.
   Hab. N.E. coast of Australia; Raines Islet.

††† Nucleus large, regularly spiral, smooth.

8. Scapha aulica.
   Voluta aulica, Soland.; Sow. Tank. Cat. t. 3; Conch. Thes. 198. t. 46. f. 9, 10, 11, 12; Wood, Cat. Supp. f. 4.
   Aulica aulica, Adams, Gen. 161.
   Hab. Sooloo Islands.

   Hab. Solomon’s Island.

10. Scapha piperita.
    Aulica piperita, Adams, 161.
    Hab. ———? Cab. Norris (only one specimen known).
11. **Scapha magnifica.**
*Hab.* Australia, in estuaries. Port Jackson, in two fathoms water; Stutchbury.

12. **Scapha Junonia.**
*Scaphella Junonia*, Swains. Malac. 318; Adams, 163.
*Hab.* Gulf of Mexico.

13. **Scapha punctata.**
*Aulica punctata*, Adams, 161.
*Hab.* — ?
A single imperfect specimen in the British Museum.

14. **Scapha luteostoma.**
*Voluta chrysostoma*, Swains.
*Aulica luteostoma*, Adams, 161.
*Voluta imperialis*, var., Dillwyn.
*Hab.* Indian Ocean, Chemn.

†††† Nucleus small, regularly spiral, smooth.

15. **Scapha Colocynthia, Gray.**
*Cymbiola Brasiliana*, Swains. Malac. 317; Adams, 162.
*Cymbiola Colocynthis*, Swains.; Adams.
*Hab.* Brazil.

16. **Scapha Magellanica.**
*Cymbiola ancilla*, Swains. 317; Adams, 163.
*Volutella ancilla*, Gray, P. Z. S.
*Voluta spectabilis*, Gmelin, S.N.
*Cymbiola magellanica*, Swains. Malac. 317; Adams, 162.
*Voluta Ceramica*, Gmelin.
Var. β. Shell thicker, striated.
Scaphella (Alcithoe) tuberculata, Adams, 164.
Cymbiola Beckii, Adams, 163.
Hab. Patagonia; Magellan Straits.

17. Scapha Ferussacii.
Voluta rudis, Gray, Griff. A. K. xiii. t. 30. f. 1, 1833.
Cymbiola Ferussaci, Adams, 163.
Hab. ——?

††††† Nucleus smooth, small, spiral, with the upper whorl rather swollen and irregular.

18. Scapha pacifica.
Voluta insularis, Solander.
Scaphella (Alcithoe) Pacifica, Adams, 164.
Voluta arabica, Gmelin.
Buccinum Arabicum, Martyn.
Scaphella (Alcithoe) gracilis, Adams, 164.
Scaphella (Alcithoe) fusus, Adams, 163, 164.
Voluta tuberculata, Sow. Conch. Thes. t. 50. f. 49, 50.
Cymbiola tuberculata, Swains. Exot. Conch. t. 29.
Hab. New Zealand.

19. Scapha megaspira.
Voluta megaspira, Sow. Conch. Thes. 208. t. 48. f. 31, 32.
Voluta lyriformis, Kiener, Icon.; not Brod.
Scaphella (Alcithoe) megaspira, Adams.
Hab. ——? Mus. Cuming. Perhaps a variety of S. pacifica.

20. Scapha concinna.
Voluta Lyriformis, Kiener, Icon.
Hab. ——?

Scaphella fusiformis, Swains. Malac. 318.
Scaphella (Alcithoe) fusiformis, Adams, 164.
Hab. Van Diemen’s Land.
§§ Pillar lip with four or five strong subequal plaits in front, and some small ones behind. Operculum horny, distinct.

4. Voluta.

Shell ovate, striated, covered with a thin periostraca; spire conic, nucleus small, cylindrical, regular, spiral, produced, brown; mouth elongate; inner lip parallel to outer; pillar with some (four to five) large oblique plaits in front and more transverse ones behind.

† Outer lip thickened, reflexed; inner lip rounded.

1. Voluta musica, Linn.
Schum. 238; Adams, 165; Lamk.; Sow. Conch. Thes. 211.
t. 49. f. 36, 43.
Voluta thiarella, Lamk.
Voluta carneolata, Lamk.
Voluta guinaica, Lamk.
Harpula guinaica, Swains. Malac. 317.
Voluta virescens β, Dillwyn, R. S.
Voluta laevigata, Lamk.
Harpula laevigata, Swains. Malac. 317.
? Voluta nodulosa, Lamk.
Voluta sulcata, Lamk.
t. 53. f. 87.
Voluta plicata, Dillwyn.
Haβ. Jamaica; St. Vincent's.

2. Voluta ebrea.

Voluta ebrea, Linn.; Schum. N. S. 238; Adams, 165; Sow. Conch. Thes. 211. t. 54. f. 95, 96, 97.
Haβ. Indian Ocean.

†† Outer lip thickened, reflexed on the edge; inner lip thickened, compressed.

3. Voluta polyzonalis, Lamk.

t. 52. f. 77, 78.
Voluta virescens, Soland.
Murex Cantinelosus, Mus. Gevers.
Voluta fulva, Lamk.
Harpula fulva, Swains. Malac. 317.
Voluta chlorosina, Lamk.
Sow. Conch. Thes. 213. t. 55. f. 119.
Haβ. —— ? Guinea, Humphreys.
Outer lip rounded, not reflexed on the edge.

4. **Voluta vexillum**.
*Voluta arausiaca*, Solander.
_Hab._ China; Amboina.

5. **Voluta lapponica**.
*Voluta lapponica*, Linna.
_Hab._ Indian Ocean; China.

5. **Fulgoraria**.

Shell ovate, fusiform, striated and costated; spire conical; nucleus small, spiral; aperture elongate; inner lip slightly dilated; pillar with a central thickening, covered with many irregular oblique plaits; canal rather produced in front.

_Operculum_ —? _Animal_ —? _Teeth_ —?

*Voluta rupestris*, Gmelin, Dillwyn.
*Fulgoraria fulgura*, Adams.
*Murex fulgora*, Martini, iii. f. 841, 942.
_Hab._ China; Japan.

§§§ _Front of the pillar with two or three small oblique plaits, and generally some small ones behind them._

6. **Lyria**.

Shell fusiform, longitudinally plaited; spire conical; aperture ovate; pillar-lip with numerous small plaits behind the two larger front ones.

_Operculum_ —? _Teeth_ —?

† _Aperture ovate; outer lip moderate, not toothed within; inner lip nearly smooth behind._

_Hab._ East coast of Africa.

Voluta multicolostata, Brod. Zool. Journ. iii. t. 3. f. 2.
Harpula mitraformis, Swains. Malac. 318.
Hab. Australia; Java?

Voluta Perdicina, Schubert & Wagner.
Harpula Nucleus, Swains. Malac. 318.
Hab. Australia.

4. Lyria festiva, Gray.
With a black spot on the front of the pillar, and another at the hinder part of the inner lip near the suture.
Voluta festiva, Lamk.; Sow. Conch. Thes. 218. t. 52. f. 79, 80, from Lamk. specimen, not D'Orb.
Cymbiola festiva, Swains. Malac. 317; Adams, 163.
Hab. East coast of Africa.

++ Aperture ovate; outer lip moderate, simple, without any internal rib; inner lip with numerous small grooves.

5. Lyria costata, Gray.
Voluta lyricata, Humph. MSS.; Sow. Tank. Cat. n. 2140.
Lyria lyricata, Adams, 167.
Voluta Anna, Lesson, Zool. Illust.
Hab. Madagascar?

Voluta Delessertiana, Petit, Mag. Zool. 1842, t. 52; Sow. Conch. Thes. 216. t. 52. f. 73, 74.
Hab. North coast of Madagascar, at Nosse-Bé.

+++ Aperture narrow; outer lip thickened externally with a convex varix and a strong internal central rib; inner lip smooth.
Enæta.

7. Lyria (Enæta) Harpa, Gray.
Lyria (Enæta) harpa, Adams, 167.
Hab. Peru.

8. Lyria (Enæta) cylleniformis.
Lyria (Enæta) cylleniformis, Adams.
Hab. ——? Mus. W. Metcalf, Esq.
The shell is strongly spirally striated and costated.
9. Lyria (Enata) Guildingii.

Lyria (Enata) Guildingii, Adams.
Hab. St. Vincent’s.

10. Lyria (Enata) Cumingii.

Thes. 213. t. 55. f. 105, 106, 107.
Lyria (Enata) Cumingii, Adams.
Hab. Central America; San Salvador; Gulf of Fonseca.

7. Callipara.

Shell oblong, subcylindrical; spire short, nucleus small; mouth linear; inner lip — —; pillar with two small plaits in front. Animal — —? Operculum — —?

1. Callipara bullata, Gray.

206. t. 53. f. 88; Adams, Gen. Moll. t. 17. f. 6.
Harpula bullata, Swains. Malac. 318.
Hab. Cape of Good Hope; Algoa Bay.

B. Mantle lobes produced and partly covering the shell; inner lip produced over the body whorl. Pillar-folds: 4–5, large, distinct, oblique.

8. Volutella.

Shell fusiform, smooth, more or less covered with a glassy coat (often artificially removed in cabinet specimens); spire conic, nucleus small or moderate, spiral; aperture ovate elongate, inner lip expanded, reflexed; mantle produced on the left side. Teeth — —? Operculum none.

† Mantle lobes largely expanded, entirely covering the spire, which is often covered with a callous deposit.

1. Volutella angulata, D’Orb.

Voluta angulata, Swains. Exot. Conch. t. 3, 4; Malac. 317; Sow.
Voluta narisa, Wagner.
Zidonat angulata, Adams, 161.
Hab. West coast of South America; Patagonia.

†† Mantle lobes moderately expanded, covering the lower side of the spire, and leaving a callous band on the suture of the upper side; spire often crowned.

2. Volutella Scapha, Gray, P. Z. S.

Voluta Scapha, Gmelin; Sow. Conch. Thes. t. 46. f. 12, t. 48. f. 35.
Voluta nobilis, Soland.
Hab. China? Australia.
*Voluta Vespertilio*, var., Born.  
*Hab.* Philippine Islands; China.

*Voluta Cymbiola*, Chemn. x. f. 1385, 1386; Sow. Conch. Thes. t. 51. f. 75, 76.  
*Voluta ducalis*, var. C, Lamk.  
*Volutaflammula*, Goodall, Wood, Cat. Supp. f. 5.  
*Voluta ducalis*, var. ? Lamk.  
*VolutaÆthiopica*, var. γ, Gmelin.  
*Hab.* Amboina.

*Hab.* Australia, Endeavour Straits.

*Volutaflavicans*, Gmelin.  
*Voluta Scrofa*, Solander.  
*Voluta Volva*, Chemn.  
*Voluta volvacea*, Lamk.; Sow. Conch. Thes. 195. t. 46. f. 3, 4; t. 51. f. 60.  
*Hab.* Australia; Port Essington.

††† *Mantle lobes moderately expanded, not covering the spire; suture simple; spire not crowned.*

*Scaphella (Alcithoe) papillosa*, Adams, 164.  
*Hab.* Australia?; Van Diemen’s Land; Tiger Islands?

8. **Volutella fulgetrum.**  
*Voluta fulgetrum*, Sow. Tank. Cat. t. 4, 5; Conch. Thes. 207. t. 47. f. 33, 34; Gray, Wood, Cat. Supp. f. 3.  
*Scaphella (Alcithoe) fulgetrum*, Adams, 164.  
*Hab.* Australia; Port Lincoln; Torres Straits.

II. The following genus has linear, acute teeth, with a narrow, angularly diverging base; the mantle enclosed?; inner lip of shell
defined; spire conic, nucleus small, regularly spiral. Operculum none. Animal oviparous.


Shell fusiform, polished; spire conic, nucleus small, spiral; suture of whorls with a callous edge; aperture elongate; pillar with five oblique plait in front.

† Spire smooth.

1. Amoria Turneri, Gray.
   *Voluta Turneri*, Gray, Griffith A. K. t. 40. f. 1.
   *Scaphella Turneri*, Adams, 164.
   Hab. Australia; Port Essington.

2. Amoria reticulata.
   *Scaphella reticulata*, Adams, 164.
   Hab. Australia.

3. Amoria undulata, Gray.
   *Voluta strangulata*, Muhlfeld.
   *Voluta fluctuata*, Solander.
   Hab. Australia; Van Diemen’s Land.

4. Amoria maculata.
   *Scaphella maculata*, Adams, 163.
   Hab. Australia.

5. Amoria zebra.
   *Marginella radiata*, Lamk.
   *Scaphella zebra*, Adams, 164.
   Hab. Australia.

†† Spire nodulose.

6. Amoria lineata.
   *Voluta lineata*, Leach, Zool. Misc. i. t. 12. f. 2.
   Hab. North-east coast of Australia.

   *Aulica marmorata*, Adams, 161.
   Hab. Australia.
There is a shell which has been described as *Volutolites abyssicola* by Messrs. Adams and Reeves, *Voy. Samarang*; Adams, Gen. Moll. t. 18. f. 8; found near the Cape of Good Hope; but it is very doubtful if it is not more nearly related to *Cassis* than *Voluta*; for the pillar lip is only marked with numerous faint rudimentary or obsolete plaits, and the shell is costately varicled and deeply striated.

In the above list great attention has been paid to the country inhabited by the species, and no special habitat has been given unless specimens have been received directly from the locality recorded.

2. **Note on the Sixteen Species of Texan Birds*** named by Mr. Giraud of New York, in 1841. By Philip Lutley Sclater, M.A.

1. *Icterus Audubonii*, Giraud (no plate), is *Psarocolius melanoccephalus*, Wagl. *Isis*, 1829, p. 750. A good figure and interesting account of this fine species is given by Mr. Cassin in his new work on the birds of California, Texas, Oregon, &c. pt. 5. p. 137. pl. xxi.

2. *Muscicapa texensis*, Giraud, pl. 1. This seems very like *Elania cayennensis* (Linn.), (which is included by Mr. Swainson in his Synopsis of the Birds of Mexico,) though rather larger in size.

3. *Muscicapa Lawrenceii*, Giraud, pl. 2. fig. 1.

4. *Muscicapa fulvifrons*, Giraud, pl. 2. fig. 2.

5. *Sylvia Halsei*, Giraud, pl. 3. fig. 1. This and the two preceding species I do not recognise.


8. *Parus leucotis*, Giraud, pl. 4. fig. 2, is without doubt *Setophaga rubra*, Sw. Phil. Mag. 1827, p. 368, and has other prior synonyms.

9. *Fringilla texensis*, Giraud, pl. 5. fig. 1, is *Chrysomitis mexicana* (Sw.); *Carduelis mexicana*, Sw. Phil. Mag. 1827, p. 435.


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10. *Pipra galericulata*, Giraud, pl. 5. fig. 2 = *Euphonia elegantissima* (Bp.); *Pipra elegantissima*, Bp. Pr. Z. S. 1837, p. 112, and has other synonyms.

11. *Muscicapa leucomus*, Giraud, pl. 6. fig. 1, is *Setophaga picta*, Sw. Zool. Ill. n.s. pl. 3.

12. *Muscicapa brasieri*, Giraud, pl. 6. fig. 2, seems to be the same as *Basiluterus culicivorus*, Bp. Conspr. p. 313; *Sylvia culicivora*, Licht. in Mus. Berol., which in that case must be called *Basiluterus brasieri* (Giraud).

13. *Muscicapa rubrifrons*, Giraud, pl. 7. fig. 1. This very pretty bird is named in Bonaparte’s Conspr. p. 312, *Cardellina amicta*, Dubus; and a reference is given to that author’s ‘Esquisses Ornithologiques,’ 1850, t. 25, which, unless I am much mistaken, is still unpublished. Be that as it may, Mr. Giraud’s name has many years’ priority, and the bird will stand as *Cardellina rubrifrons* (Giraud).


16. *Alauda minor*, Giraud (no plate), is an *Otocorys*, probably the same as Wagler’s *Alauda chrysolaema*, Isis, 1831, p. 530; *Otocorys chrysolaema*, Bp. Conspr. p. 246. But there is much confusion at present among the American, as among the Old-World species of this genus.

I have thought it worth while to give the previous list of the Texan birds described by Mr. Giraud, and some remarks on their synonymy, as his book appears to be very little known on this side of the Atlantic. The only copy I have seen is that in the Society’s Library, to which it was presented by the author. It will be observed that by far the greater portion of the species have been also noticed by European naturalists, though in some cases subsequently to Mr. Giraud’s publication of them.

3. **On a New Species of the Genus *Todirostrum of Lesson*.**

*By Philip Lutley Sclater, M.A.*

(Aves, Pl. LXXXIV.)

**Todirostrum nigriceps.** Pl. LXXXIV. fig. 1.

*T. supra flave-olivaceum: alis caudaque nigris; rectricibus et remigibus primariis stricte, secondariis autem et alarum tectricibus latius flavescente limbatis: pilo eum nucha et capitis lateribus nigris: subitus florum; gutture et crisso albis: rostro pedibusque nigris.*
(1) _Todirostrum nigriceps_, Salter.

(2) __Spheniscus__, Latham.
Long. tota 3·4, alae 1·5, caudae 1·1.

Hab. Santa Martha in Nov. Grenada.

De Lafresnaye has given an account of the species of this peculiar South American genus of Tyrants in the 'Revue Zoologique' for 1846, p. 360. Bonaparte in his 'Conspéctus' has rather extended the list; but his 4th and 5th species from Desmarest seem rather doubtful, and the *Muscicapa diops* of Temminck is, I believe, quite incorrectly stated to be identical with Hartlaub's *Todirostrum granadense*, and does not belong to this genus. There is also little doubt that *Todus melanocephalus*, Spix, is the same as *Todus cinereus*, and the first and third species of the Conspéctus are therefore coequal. The latest additions to this genus are:—

1. *T. ruficeps*, Kp. in these Proceedings, 1851, p. 52 = *T. multicolor*, Strickl. Cont. Orn. 1852, pl. 85, fig. 2.—(*Todirostrum pectorale*, Kp. of the same page does not differ from Hartlaub’s *granadense*.)


4. *T. fumifrons*, Hartl. Journ. f. Orn. 1853, p. 35; and


The present elegant species I cannot identify with any of those previously described. It is a typical *Todirostrum*, and may be placed near *T. cinereum*, the type of the genus, from which it is easily distinguished by its pure black head, yellowish-olive back, and white throat. I obtained the only example of it I have yet seen from the MM. Verreaux, by whom it was received along with many other rare and valuable species from Santa Martha, on the north coast of New Grenada.

Mr. Gould has specimens of the *Todirostrum spieferum*, Lafr. (Aves, Pl. LXXXIV. fig. 2), from Chamicurros in North-east Peru. This species, with its largely-developed crest, quite reminds one of the *Muscivora regia* (Gm.).

April 10th, 1855.

Dr. Gray, F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. Descriptions of Eight New Species of Birds from South America.

   By John Gould, Esq., F.R.S. etc.

   (Aves, Pl. LXXXIII.)

Before describing the following birds, all of which are in my own collection, I would remark, that I have submitted them to the in-
spection of Mr. P. L. Sclater, who has paid much attention to South American birds, and who pronounces them new to science; I therefore embrace the earliest opportunity of placing them upon record.


General hue of the upper surface brown, the feathers edged with greyish-brown, producing a somewhat spotted appearance; from above each eye, down the side of the neck, an obscure streak of buffy-white; upper tail-coverts dark brown, fringed with reddish-brown; along the margins of the primaries a series of dark brown dots on a light brown ground; tail brown, with lighter edges dotted with dark brown like the primaries; under surface greyish-white, with a streak of light brown down the centre of each feather, small on the throat, gradually increasing on the abdomen, and assuming the form of bars on the flanks; under tail-coverts buff, barred with dark brown; irides red; bill light horn-colour; feet olive-brown.

Total length, 8½ inches; bill, 1; wing, 3½; tail, 3½; tarsi, 1.

**Hab.** River Ucayali in Peru.

**Remark.**—This species is very closely allied to *C. scolopaceus*, Spix, but differs in being of a rather larger size, in having a somewhat more curved bill, a more uniformly coloured back, and in the greater number and larger size of the brown markings of the under surface, which, moreover, extend on to the upper part of the neck and throat.


Head very dark brown suffused with rufous; upper surface, wings and tail-coverts rich reddish or saffron-brown; tail reddish-brown, crossed by a broad black band near the end, and slightly tipped with buffy-white on the centre feathers, and much more conspicuously on the lateral ones; lores fawn-colour; under surface white, the feathers of the breast broadly, and those of the centre of the abdomen narrowly bordered on the sides with brownish-black; on the flanks the latter hue increases to such an extent as to leave only a lanceolate stripe of the white down the centre of each feather; under tail-coverts buff, speckled with brown; above each eye a narrow streak of buff commencing a little in advance of the centre of the eye, and extending downwards as low as the nape; irides brown; bill black; feet reddish-brown.

Total length, 9½ inches; bill, 1½; wing, 4½; tail, 2½; tarsi, 1½.

**Hab.** Chamicurros, on the eastern side of Peru.

**Remark.**—This is the largest and perhaps the finest species of the genus: its legs and feet are very powerful, its bill thick and strong, its tail very short and rounded, its wings concave, and its plumage offers that silkiness to the touch which is so characteristic of the members of the genus *Chamaea*, of which it forms in every sense a typical example.


Band across the forehead black; crown, occiput and nape deep
chestnut; upper surface and wings rich brown; central primaries edged at the base with yellowish-brown; base of the inner web of the primaries and secondaries golden, showing conspicuously on the under surface, but not perceptible on the upper; the outer covert at the shoulder with a streak of ochreous-yellow along the margin of its outer web; tail brown at the base, gradually deepening into black at the tip; throat, neck and breast sooty-black; abdomen and under tail-coverts fuliginous-brown, assuming an olive tint on the flanks; irides brown; bill black; feet dark brown.

Total length, 7 inches; bill, \( \frac{4}{5} \); wing, 3\( \frac{3}{8} \); tail, 2\( \frac{1}{2} \); tarsi, 1\( \frac{1}{2} \).

*Hab.* Chamicurros, on the eastern side of Peru.

**Remark.**—About the same size and nearly allied to *F. Cayennensis*, but may be at once distinguished from that species by the bar of black on the forehead.


Head, upper and under surface and the tail black; feathers of the shoulders and mantle fringed with grey, giving it a scale-like appearance; those of the back fringed in a similar manner, but so narrowly as to be scarcely apparent; tail-coverts black, edged with rusty-red; extreme edge of the shoulder white; wing-coverts black, tipped with dark rust-red, forming first a narrow bar of red, and then a broad one of black; primaries rusty-red, largely tipped with black; secondaries rusty-red at the base, then black and tipped with rusty-red, the extent of the red increasing as the feathers approach the body; orbits naked and apparently red; bill black; feet fleshy-brown.

Total length, 6\( \frac{3}{4} \) inches; bill, \( \frac{3}{4} \); wing, 3\( \frac{1}{2} \); tail, 2\( \frac{1}{2} \); tarsi, \( \frac{3}{4} \).

*Hab.* Interior of Demerara.

**Remark.**—This is a very fine species. The specimen above described, which is the only one I have seen, is in my own collection.


Head, neck, breast, back, wings and tail black; base of the third, fourth and succeeding primaries white, forming a small conspicuous patch in the centre of the wing; lower part of the back, rump and upper tail-coverts grey; under surface of the wing, abdomen and under tail-coverts white; flanks grey, with a few black feathers interspersed on the sides of the chest; irides red; bill, legs and feet greenish.

Total length, 6\( \frac{4}{4} \) inches; bill, \( \frac{5}{4} \); wing, 3; tail, 3; tarsi, \( \frac{2}{4} \).

*Hab.* River Ucayali in Peru.


The entire plumage deep black with the exception of the shoulders, on which is a broad mark of white; bill black; feet dark olive.

Total length, 7 inches; bill, 1\( \frac{3}{4} \); wing, 3\( \frac{3}{4} \); tail, 2\( \frac{5}{8} \); tarsi, 1\( \frac{3}{4} \).

*Hab.* River Ucayali in Peru.


Male.—Crown and sides of the head, crest, back, lesser wing-
coverts and tail, black; the wing-coverts tipped with white; remainder of the wing blackish-brown; throat and all the under surface white; bill black, becoming lighter at the base; feet olive-brown.

Total length, 8 1/2 inches; bill, 1 1/4; wing, 3 1/2; tail, 3 1/2; tarsi, 1 1/4.

Female.—Crown of the head, crest, upper surface of the body, wings and tail, chestnut; throat and chest white, passing into the mingled grey and sandy-red of the flanks; feathers clothing the thighs rusty-red tipped with white; bill blackish-brown; feet olive-brown.

_Hab._ River Ucayali in Peru; I have also received examples from Bogota. I must remark, however, that the specimens from the latter locality are somewhat smaller than those from Peru.


Crown and sides of the head, all the upper surface and tail, slaty-black; wings brownish-black, with a spot of white at the tip of each of the coverts, forming three semicircular rows across the wing; chin, breast and abdomen rich dark chestnut-red, gradually blending on the flanks and vent into the dark hue of the upper surface; bill black; feet olive-brown.

Total length, 7 inches; bill, 1; wing, 3 1/2; tail, 2 1/2; tarsi, 1.

_Hab._ Chamicurros in Peru.

_Remark._—I believe the above to be the description of a female.

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2. **Notes on the Habits of some Indian Birds.**

_BY Lieut. Burgess. PART IX._

**Genus Ardea.**

**Subgenus Egretta (Swainson).**

**Ardea Caboga.** **Cattle Heron.**

This active little Heron is abundant in the Deccan, and, as its name implies, is a constant attendant on cattle, running about amongst them, and picking off the flies that settle on them. I give the following from my note-book on their habits:—"Towards the end of November I observed a number of the common small White Heron feeding near some cattle, and the same day twenty or thirty others, and there were probably more feeding in fields of the toor plant; they appeared to be picking up food from the ground, and were in constant motion, frequently taking short flights from one part of the field to the other. I observed the same birds next morning sitting on a banian tree within the walls of a village; they quite whitened the top of the tree with their numbers.

"1st May, 1848.—Observed that the small White Heron has at this season of the year the fawn-coloured neck, and also that the long feathers falling over the breast are fawn-coloured.

"12th May.—Saw numbers of the small White Heron feeding amongst the sheep and along the grass plain at Khoonthephi."
"18th May.—Observed a flock of fifty-nine small White Herons in a ploughed field picking up the worms and insects brought out by last night’s heavy rain; several of them were without the fawn-colour on the neck, head and breast."

"8th May, 1849.—Saw five or six of the small White Heron feeding amongst cattle. They keep close to the animals whilst feeding, and I saw one evidently picking the flies off a bullock; all these had more or less of the buff-colour on the neck. It is extremely amusing to observe these birds chasing flies, their long neck stretched out as they follow every turn and twist of the fly, which is seized immediately it has settled."

The Cattle Heron breeds during the month of April, building in tall trees. The nest is composed of sticks, and contains four eggs of a pale greenish-blue colour, \(1\frac{8}{10}\) in. in length by \(1\frac{3}{10}\) in. in width. I obtained eleven eggs from one tree on which there were twenty nests. I do not know if it has been satisfactorily determined whether both sexes assume the buff head and neck during the breeding season.

**Subgenus Nycticorax.**

**Ardea Nycticorax. Night Heron.**

Is a tolerably common bird in the Upper Deccan, but from its habit of roosting during the day in thick lofty trees, which it leaves for the streams after dusk, is not often observed. Its harsh grating cry is heard in the early dawn as it returns to its hiding-places. I made several attempts to obtain its nest and eggs, but without success, neither could I learn its time of breeding; however, I shot a young bird on 3rd December, with some down remaining on its head, which circumstance leads me to believe that they do not breed at the same time as others of the Heron tribe. Dr. Jerdon says, "it breeds on palm and other trees, many nests together." The Night Heron of England, identical I believe with that of India, "builds in trees," says Mr. Yarrell, "and lays four pale greenish-blue eggs, rather more than 2 in. in length by \(1\frac{1}{2}\) in. in breadth."

**Genus Platalea.**

**Platalea leucorodia. White Spoonbill.**

I have seen flocks of these birds on the river Godavary, and occasionally on the smaller streams. They breed during the month of April, building in tall trees on the border of a stream. I append a note on the subject:—"18th April, 1848. Found the White Spoonbill breeding in a peepul tree beside a stream. The nest was not, like those of the species of Tantalus and Ibis, built on the top of the tree, but on the outside branches, about two-thirds from the ground; it was composed of sticks, and appeared small for so large a bird. It contained four eggs of a white colour, spotted with pale red, of much the same size as those of the Tantalus leucoccephalus." The egg is \(2\frac{6}{10}\) in. in length, by rather more than \(1\frac{7}{10}\) in.
in breadth. The gizzard of the male bird, which I shot rising from the nest whence the eggs were taken, was of a strong and rough texture, much like that of a fowl; it contained some bright yellow substance, a few small stones, a seed, and a few small particles of grass. Although the Spoonbill does not build its nest in the same situation as the Tantalus or Ibis, I quite agree with Dr. Jerdon that the Spoonbill shows more affinity to the Ibis than to the Herons, from the size and colouring of its eggs; and I believe that the more the study of oology is taken up, the more clearly will it be shown that birds may be nearly as well classed by the number and colour of their eggs and their mode of nidification, as by their external form and internal organization. The egg is white, with a belt of light red spots at the larger end.

**Genus Ciconia (Briss.).**

**Ciconia leucocephala (Jerdon). White-necked Stork.**

I have but seldom met with this handsomely-marked bird, but I was fortunate enough to find it in its breeding haunts, and to secure its eggs. On the 7th March 1850, I found a pair of these Storks breeding in rather a low peepml tree; the nest was composed of sticks, and contained four white eggs, nearly 2 1/8 in. in length, by nearly 1 7/8 in. in breadth. On the same tree a Black Vulture (*Vultur ponticerianus*) had also built its nest, containing one egg. In February I found young birds; when hatched, the beak and bare skin of the face are of a dull greenish-black, irides brown; the body is covered with light brownish fawn-coloured down, legs and feet dull brownish-orange. On one tree were two nests, each containing two young. The nests were composed of sticks, and built near the top of the tree, a tall Indian fig, the stem of which was partly within the walls of a village. These birds, I was informed, breed in the same tree every year.

**Genus Tantalus (L.).**

**Tantalus leucocephalus. Pelican Ibis.**

The Pelican Ibis, as it is called by Dr. Jerdon, is a common bird in the Deccan, frequenting rivers and tanks, and feeding, I believe, chiefly on fish. Its large size renders it remarkable, particularly during the breeding season, when the back and scapulars attain their particularly rich rosy tint. These birds are social, feeding in flocks. I was told by the natives of a village close to a tank frequented by them, and close to one of their breeding places, that when they fish in the tank they walk in the shallow water in line, driving the fish before them. In another village, about ten miles from the Godavery River, where there are a great number of large banian trees both outside and inside the walls, I found a community of these birds, which had built their nests on them, probably to the number of fifty. The trees inside the walls were as thickly
covered with nests as those outside, and the birds, which appeared docile and tame, did not mind the noise of the people passing beneath them. At the time that I visited the village, the young birds were all well-fledged, and most of them able to fly. The village people informed me that the old birds move off to the river in the very early dawn, and having caught a sufficient supply for their young, return about eight or nine o'clock. A second expedition is made during the afternoon. Some idea of the quantity of fish caught by these birds may be gathered from what the people told me, that quantities of fine fish were dropped by the old birds when feeding their young, and were eaten by them. A young bird of this species which I shot in Scinde, disgorged a large quantity of small eels. This Ibis breeds during the month of February. The nest is composed of small sticks, and is placed at the top of the trees. If there are many on the same tree, they are placed pretty close together. They lay three or four eggs, of a dull opake white, nearly $2\frac{6}{10}$ in. in length, by rather more than $1\frac{8}{10}$ in. in width. The young birds are able to fly by the month of May. I kept a young bird which had dropped from the nest and broken its wing in my garden for three or four months. It was most gentle and quiet, occasionally only snapping its strong beak at any person it did not like. In a short time it recognized the person who fed it, and whenever he made his appearance it would walk towards him, uttering a piteous cry, flapping its long wings and bowing its head towards him. It was a most ludicrous sight, which many came to see. It was fed on fresh fish, and would not touch any that were at all tainted. Another young bird which I also kept, would devour the bodies of birds brought in for stuffing, and did not appear at all particular as to the quality of its food. The stomach of an old bird contained a grassy substance, the remains of fish, and what appeared to be the claw of a small crab. I give a description of a young bird taken on 20th April. The beak dark lead-brown, darkest at the base, which is very thick; the skin on the face and forehead the same blackish lead-colour; the feathers on the head brownish-grey; the feathers on the neck of an ashy-brown, mixed with down. Shoulders ashy, with light brown edges; scapulars much the same, with much lighter ash edges; the centres of the feathers darkest in colour; lesser wing-coverts brownish-black, with an ashy tinge and light ash edges; larger coverts dark greyish-black; outer webs tipped with whitish ash-colour, and inner webs tinged with the same colour on the edges. Tertials much the same colour as the greater coverts, but tinged with rose-colour. Primaries and secondaries black, with green reflections; back beautiful pale rose-colour; upper tail-coverts dusky grey; tail-feathers twelve, black, with bright green reflections. The breast, belly and sides covered with beautiful white down, interspersed on the breast with some dark ash-grey feathers, and on the sides with white, tinged with delicate rose-colour; the whole of the back is also covered with beautiful down. This bird was evidently a nestling, the first feathers having scantily grown enough to cover the body.

No. CCLXXXIX.—Proceedings of the Zoological Society.
Ibis papillosa (Temm.). Warty-headed Ibis.

This Ibis is more common than the Black-headed, and is fond of open places, as well as the sandy shores of the larger streams and rivers. They are seen in flocks in the open country, picking up insects; the stomach of one which I shot contained nothing but the heads, legs, and wing-cases of locusts; that of a second was full of large grasshoppers, and a lizard; that of a third was filled with the chrysalides of butterflies. At the approach of evening the Warty Ibis retires to thick trees to roost, uttering its loud and discordant cry. It breeds during the months of February, March, April, May and June, laying as many as three, and probably four eggs, of a pale bluish-white, slightly streaked and spotted with pale brown, \(2\frac{3}{4}\) in. in length, by nearly \(1\frac{3}{8}\) in. in width. I found the nest of this Ibis built on the top of a peepul tree (a species of Banian), and containing three young birds, in the month of March.

April 24, 1855.

John Gould, Esq., F.R.S., in the Chair.

The following paper was read:

1. On some new or little known Species of Birds in the Derby Museum at Liverpool.
   By Philip Lutley Sclater, M.A.
   (Aves, Pl. LXXXV.—LXXXVIII.)

The zoological collection of the late Earl of Derby, now at Liverpool, contains one of the largest and finest series of birds at present in existence, many of the examples being valuable not only for their rarity, but also as types of species described long ago by Latham in his 'General History' and other works, and which are hardly to be recognized without examination of the original specimens.

Mr. Thomas Moore, the present Curator, is busily engaged in arranging this mass of materials, and affords every facility to those who are anxious to inspect any of the objects committed to his care. Among the birds I have had an opportunity of examining there during a recent short visit are the following, which I venture to characterize as new.

1. Conirostrum ferrugineiventre, Sclater. (Pl. LXXXV.)
   Long. tota 4\(\frac{9}{10}\), alae 2\(\frac{7}{10}\), caudæ 2\(\frac{0}{10}\).
   Hab. in Bolivia.
This is a typical Conirostrum, and quite distinct, I think, from any species hitherto described. The members of this genus with which I am at present acquainted are—


Conirostrum superciliosum of Hartlaub, R. Z. 1844, p. 215, and Bp. Conspr. p. 402. sp. 5, is a true Sylvicola of Swainson, the same as Parula mexicana, Bp. Conspr. p. 310, and has of course nothing to do with these birds.

The only other species that have been referred to this genus, as far as I am aware, are Conirostrum ornatum, Townshend, Ann. Lyc. New York, 1851, p. 112, pl. 5. fig. 1, from Texas (the same as Agithalus flaviceps of Sundevall, according to Dr. Hartlaub), and the C. fuscum and colombianum of Lesson, Descr. d. Mamm. et Ois. pp. 273 and 274, none of which I have as yet recognized.

2. Synallaxis erythrothorax, Sclater. (Pl. LXXXVI.)


Long. tota 5'3, alæ 2'3, caudæ 2'5.

Hab. in America Centrali; Coban et Honduras.

Of this Synallaxis, which seems different from all other members of the genus that I am acquainted with, there is a specimen in the Derby Museum procured at Coban by Delattre in 1843. The British Museum contains an example from Honduras, and I have a single skin in my own collection purchased in Paris, which I believe to be from the same locality. The occurrence of species of this group north of the Isthmus of Panama seems hitherto unnoticed, except by the Prince Charles Bonaparte, in a list of a Guatimala collection of birds in these Proceedings for 1837, p. 118, in which he includes the Synallaxis cinerascentis of Temminck (Pl. Col. 227. fig. 3). But the characters there given do not at all agree with Temminck's bird, and would seem more applicable to the present species. Besides, the true Synallaxis cinerascentis is said to be from Brazil, and is not likely to occur also in Guatimala.
In my specimen of the present species the throat is slightly speckled with whitish.

3. *Ramphocænus cinereiventris*, Selater. (Pl. LXXXVII.)


Long. tota 4·0, alæ 2·0, caudæ 1·3.


A third species of this peculiar genus, beautifully intermediate in colouring as in locality between the *Ramphocænus melanurus* of Brazil and the *rufiventris* of Central America. When I say a *third* species, I am perhaps doing an injustice to M. Lesson, who has already described a third and a fourth. But I have never seen the *Ramphocæni trinitatis* and *viridis,* and indeed they are hardly likely to be recognized again from such meagre descriptions.

The *Ramphocænus cinereiventris,* of which there is only one example in the Derby Museum, was procured at Pasto, in the mountains of New Grenada, by the indefatigable Delattre. It is a rather shorter-billed bird than the other two to which I have compared it. Like *R. rufiventris,* it has the sides of the head rufous, but differs in showing a well-marked postocular spot. It is also striated on the throat like that species, but has no tinge of rufous on the abdomen, which is darkish cinereous. The tail of the specimen, I regret to say, is not quite perfect, but there is no appearance of the white markings which are the distinguishing characteristic of the Guatimalian bird.

The Derby Museum contains examples of *R. rufiventris* from Coban and Panama, and also specimens of *R. melanurus.* The latter species appears to extend from the Amazon, where Mr. Wallace collected specimens in the neighbourhood of Para, to South Brazil, where Prince Maximilian of Neuwied notices its occurrence under the name of *Troglydætes gladiator,* Beit. iii. p. 751.

4. *Cyphorinus albigularis*, Selater. (Pl. LXXXVIII.)


Long. tota 5·75, alæ 2·7, caudæ 2·1.

*Hab.* in Isthmo Panama.

This fine large typical *Cyphorinus,* distinguishable by its pure white throat and dark closly-banded under plumage, is also due to the


RAMPHOCÆNUS CINEREIVENTRIS, Selater
researches of M. Delattre, by whom it was brought from the Isthmus of Panama. The only species I can find which resembles it in some degree is *Cyphorinus leucostictus*, Cab. Orn. Notiz. in Wiegm. Archiv, 1844, p. 206; Schomb. Reise, iii. p. 673. sp. 37, from Mexico and Guiana; but that would appear to be a much smaller bird, and has the under parts from the chin to the belly white, with the sides and crissum reddish-brown.

Among the rare types in the Derby Museum is Mr. Eyton's *Dendrexetastes capitoïdes* (Cont. Orn. 1851, p. 76). This does not seem to me different from M. de Lafresnaye's *Dendrocolaptes temmincki* (Rev. et Mag. de Zool. 1851, p. 154. pl. 4), named about the same time, but I think the latter term has a slight precedence in point of date, and the bird will therefore stand as *Dendrexetastes temmincki*, if thought worthy of continuing to rank as a separate genus. The Derby Museum specimen is, to judge by its make, decidedly a Cayenne skin. The *Dendrocolaptes temmincki* in the Leyden Museum is said to be from Bogota.

Upon examining Dr. Kaup's *Psaris fraseri*, of these Proceedings, 1851, p. 47, I found it the same as *Tityra albitorques*, Du Bus, Bull. Ac. Brux. 1847, xiv. pl. 2. p. 104; and his *Psaris parinus*, ib. p. 48, seems to me very closely allied to, if not identical with, *Pachyramphus atricapillus* (Gm.), Pl. Enl. 687. fig. 1.

I can also confirm what Dr. Hartlaub has said in Wiegmann's Archiv, 1854, that *Todirostrum pectorale*, Kp., of the same paper is *T. granadense*, Hartl., *T. ruficeps*, Kp. = *T. multicolor*, Strickl., and *Setophaga flammaea*, Kp. = *S. intermedia*, Hartl. R. Z. 1853, p. 5. But in the two latter cases Dr. Kaup's names were first given, though from the long delay in publishing the Proceedings the others were first published.

When criticising other writers, it is proper also to mention my own mistakes; and I take this opportunity therefore of stating, that my *Taeioptera striaticollis* of these Proceedings, 1851, p. 193 (of which the Derby Museum contains examples), has been long ago named and figured in D'Orbigny's Voyage as *Tyrannus rufiventris*, p. 312. pl. 32. fig. 2.

May 8, 1855.

G. R. Waterhouse, Esq., in the Chair.

Mr. Gould exhibited a portion of a collection of birds formed by Mr. Hauxwell in a district lying on the eastern side of the Peruvian Andes, in the neighbourhood of the River Ucayali, one of the tributaries of the Upper Amazon. Mr. Gould observed, that the exploration of this particular district had been one of the earliest
objects of his own ornithological ambition, but that until within the last few years no naturalist had visited it. The splendid collection sent by Mr. Hauxwell, of which the birds exhibited to the Meeting formed a part, fully bore out the anticipations entertained by Mr. Gould, that when explored it would prove one of the richest and most interesting ornithological districts with which we are acquainted.

Amongst the birds exhibited were some Cotingas, differing from the ordinary species found in the lower countries of Brazil, and remarkable from the splendour of their colouring, together with species of Phoenicercus, Rhamphocelus, &c., of the most dazzling brilliancy. As a contrast to these, Mr. Gould exhibited a series of dull-coloured Thamnophilis, also contained in this collection, and remarked that this striking difference in the coloration of birds inhabiting the same locality was due almost entirely to their different degrees of exposure to the sun's rays; the brilliantly coloured species being inhabitants of the edges of the forests, where they fly about amongst the highest branches of the trees, whilst the others form a group of short-winged insectivorous birds, which inhabit the low scrub in the heart of the dense humid jungle, where the sun's rays can rarely, if ever, penetrate.

Mr. Gould also remarked, that the colours of the more brilliant species from the banks of the Ucayali, a district situated towards the centre of the South American continent, were far more splendid than those of the species representing them in countries nearer to the sea, and from this circumstance he took occasion to observe that birds from the central parts of continents were always more brilliantly coloured than those inhabiting insular or maritime countries. This rule applies equally to birds of the same species, the Tits of Central Europe being far brighter in colour than British specimens. Mr. Gould had observed that the like difference existed between specimens of the same species inhabiting Van Diemen's Land and the continent of Australia. He attributed this principally to the greater density and cloudiness of the atmosphere in islands, and countries bordering the sea; and in further illustration of the influence of light upon colour, he stated, that the dyers of this country are never able to produce tints equal in brilliancy to those obtained by their continental rivals, and that in England they never attempt to dye scarlets in cloudy weather.

The following papers were then read:—

1. Description of a new Species of Ruticilla from Erzeroum. By John Gould, F.R.S. etc.

Ruticilla erythroprocta, Gould.

Forehead black; crown of the head clouded silvery-grey; back, shoulders, throat, chest, and the upper part of the abdomen, jet-black; lower part of the abdomen, upper and under tail-coverts dull red; tail-feathers dull red, except the two middle ones, which are
brownish-black; wings both above and beneath brownish-black; some of the secondaries slightly fringed with silvery-grey; bill and feet black.

Total length, 5\(\frac{1}{2}\) inches; bill, \(\frac{5}{8}\); wing, 3\(\frac{1}{4}\); tail, 2\(\frac{5}{8}\); tarsi, \(\frac{3}{4}\).

Hab. Erzeroum.

Remark.—Nearly allied to, and about the size of, R. Tithys; but differing from that species in the under surface of the shoulder being darker, and the lower part of the abdomen being red instead of greyish-white.

In my own collection.

2. Notes on the Birds of Western India.
By Lieut. Burgess.

Family Rallidæ.

Genus Fulica, L.

Fulica atra. Bald Coot.

I found some of these birds breeding on the Singwa tank, situated about eighteen miles north of the station of Ahmednuggur, on 21st August, 1849. I obtained three eggs and three nestlings, which were marked as follows: head, neck, breast and back covered with bright orange-red, hair-like feathers; beak crimson, tip white; lower part of the back dark lead-colour, nearly black; near the beak the face was covered with bright scarlet pustules; irides brown; legs and feet dark lead-colour. The young birds swam with surprising rapidity. I was attracted at first by the unusual movements of the old birds, who swam backwards and forwards with great swiftness at some distance from the nest, showing great uneasiness, and when I was handling their young appeared quite distracted.

The egg is rather more than 2\(\frac{1}{16}\) in. in length, by nearly 1\(\frac{5}{8}\) in. in width, of a stone-colour, spotted with numberless small specks of brown, and some larger spots of dark brown and grey.

Family Scolopacideæ.

Genus Scolopax.

Subgenus Rhynchæa (Cuv.).

Rhynchæa picta (Gray). Painted Snipe.

I quite think that the Painted Snipe breeds in the Deccan, or at least some few of them, as I have had both male and female birds sent to me in the middle of July, which were shot near Ahmednuggur. The female was in remarkably rich and beautiful plumage. It is very probable that some breed annually in the rushy grounds bordering the large tank at Singwa.
Subgenus Scolopax.

Scolopax nemoricola. Solitary Snipe of the Neilgherries.

Dr. Jerdon in his Catalogue says, "It is a rare visitant to the Neilgherries during the cold season, and has not, as far as I am aware, been killed elsewhere in the Peninsula." I believe the Snipe mentioned in the following note, which I made at Nassick, to be the same bird:—

"Solitary, or rather, a very large Snipe, shot at Nassick by Lieut. Boddam of the Engineers: a very fine specimen; the plumage of a very dark dim colour, and the tints on the scapulars not very bright. Shot 5th January, 1847."

Family Charadriadæ.

Genus Charadrius.

Charadrius pluvialis. Golden Plover, L.

I have never met with this Plover in the Deccan, but shot them on the sandy plains near Kurachee in Scinde. Dr. Jerdon says, that it "is but rarely met with in the Peninsula. I have only seen it on two or three occasions on the banks of large rivers on the table-land, and on grass plains near the sea-coast, usually in small flocks of five or six. I have seen specimens killed in the neighbourhood of Madras in the breeding plumage, viz. with the whole under surface of the body deep black. It therefore most probably breeds in this country."

Charadrius minor, Wagl. Lesser Ringed Plover.

I believe the egg sent with this paper to be that of the Lesser Ringed Plover; if so, this bird breeds in the Deccan in the month of April, laying its eggs on sand-banks in the middle of the larger rivers. The egg forwarded was from a sand-bank in the river Bheema. These pretty little lively birds are common in the Deccan, resorting to the beds of streams and sandy shallows and banks of rivers. They are difficult birds to shoot, being very restless, continually taking short flights, and running about with great activity along the water's edge; their food consists of worms, small shells and grass; they lay as many as three eggs I believe; the eggs are deposited on the bare sand. The egg is rather more than \(1\frac{1}{10}\) in. in length, by \(\frac{6}{10}\)ths of an inch in width, of a rich stone colour, spotted and streaked with grey and two shades of brown.

Genus Vanellus.

Vanellus bilobus (Gmel.). Yellow Wattled Lapwing.

I have had frequent opportunities of seeing this Lapwing on the open bare plains which it frequents, and have obtained specimens, but never to my knowledge succeeded in procuring its eggs, though
I have had the eggs of Plovers brought to me in numbers. Dr. Jerdon says, “I found the eggs of this bird on one occasion on a grass plain on the west coast in the month of September; they were of a light salmon colour with dusky spots, four in number, and laid on a slight depression of the ground.” This Lapwing utters a plaintive cry when on the wing; it feeds on small beetles, white ants, &c., picking up small pieces of stone or crystal to assist the action of the gizzard.

**Vanellus Goensis** (Lath.). **Red Wattled Lapwing.**

This common Lapwing is as partial to water as the last-mentioned is to dry sandy plains; indeed I do not recollect ever to have seen it at any distance from water. It is very common in the Deccan, and may be easily recognized by its oft-repeated cry of—“Dick did you do it—Dick, Dick did you do it.” As soon as March has well set in they pair, and the female commences laying; she generally chooses the banks of rivers and small streams. On a sand-bank in the midst of the river Bheema, one of the large rivers of the Deccan, I fell in with the nest of this bird—if a small heap of dry gravel with a hollow in it can be called a nest—it contained four eggs. During the breeding season these birds, vociferous at all times, become doubly so, acquainting every one with the fact that their nest is near. I have had their eggs brought to me as late as 19th May. On the 27th May a man brought me three young ones, apparently just released from their imprisonment; their plumage was as follows:—Irides dark hazel; wattles dark brown, nearly black; the whole body covered with down, that on the head and neck brown with spots of black; the front of the neck, breast and belly white; a black streak runs along the sides from the wing to the tail; on the nape of the neck there was a black patch, and another cravat-shaped patch of black on the fore part of the neck and throat; legs and feet dark lead colour.

This Lapwing, like many of the Sandpipers, has a curious fashion of elevating and throwing forward the head, much like the motion of bowing. It is equally active by night as by day, filling the air with its taunting cry of “Did you do it.” If you should fire at and miss one of them, he goes off with, and his companions fly round you with the insulting cry of “Did you do it;” or, as Dr. Jerdon has it, “Pity to do it.” The food of this bird consists of grass and small insects; it also picks up small pieces of crystal to help digestion. The egg varies much in size; one sent measures 1.8 in. in length, by rather more than 1.5 in. in width, of a yellow stone colour, spotted and dashed with grey and dark sepias. The egg marked 28 is of this bird.

**Genus Edicnemus** (Cuv.).

**Edicnemus crepitans.** **Thick-kneed Plover.**

This bird is tolerably common amongst the stony hills and undulating grounds of the Deccan. It is more active by night than by
day, at which time its plaintive call is heard. I had for some time a young bird in my tent; during the day it used to remain quiet, but when evening began to draw on its restlessness commenced, and it used to run round and round the tent with great rapidity, uttering a single sharp querulous note. The Thick-knee feeds on small beetles and other insects, as also small particles of grass, taking down small stones to help the action of the gizzard, which is of a strong texture. They breed during the months of March and April, laying two eggs varying in colour, 2 in. in length, by rather more than 1\(\frac{1}{4}\) in. in width, of a stone colour, blotched and spotted with dark sepia-brown, and a few under spots of dark grey. In some eggs the blotches are more of an olive-brown.

**Oedicnemus recurvirostris** (Swains.).

On the 5th April, 1849, I found two young birds of what I then took to be the young of *Oedic. crepitans*, on a large sand-bank in the middle of the river Bheema. At the same time I thought it a very strange place for a bird found in dry stony places to breed in. In March 1850, I shot a specimen of *Oedicnemus recurvirostris* on the same river, some distance higher up; I therefore think it most probable that they were the young of *Oedic. recurvirostris*, and not of *Oedic. crepitans*. Had I, at the time I found them, known that the former bird was to be found on that river, I should have examined carefully the shape of the bill. The testes in the male specimen shot in March were in a turgid state. I brought away the young birds above mentioned; one was much smaller than the other, but much more active. They were both, if I remember right, covered with a greyish down. For fear of their dying through not getting proper food, I returned them to their sandy hollow the next day. The gizzard of the full-grown bird contained the bones of some small animal.

**Genus Tachydromus.**

I believe the egg now exhibited to be that of the Courier Plover, *Tachydromus Asiaticus*. Two of them were found in a field in a slight hollow of the ground in the month of April. Of the breeding of this bird Dr. Jerdon says—"It breeds in the more retired spots during the hot weather, laying three eggs of a pale greenish-yellow colour, much blotched and spotted with black, and also with a few olive spots; they are deposited in a slight hollow." The Courier is abundant on the plains of the Deccan, frequenting sandy bare spots in flocks; they have a peculiar habit of running for a distance at great speed, then suddenly stopping and erecting the body, then starting off as before.

**Subgenus Glareola.**

**Glareola orientalis** (Leach).

I came across this pretty little Pratincole when shooting on a stony bank in the river Bheema. There were numbers of them
TACHYPHONUS ZANTHOPYGIUS & Solater.
flying about like swallows, and as they mobbed me, I concluded that they had nests, but though I made most diligent search could not find any. I procured a pair of birds: the eggs in the ovaries of the female were large: the crop of the female was filled to a great size with a species of small black beetle. This occurred in the month of March.

May 22, 1855.

Dr. Gray, F.R.S., in the Chair.

The following papers were read:—

1. Descriptions of Four New or Little-Known Tanagers.
   By Philip Lutley Sclater, M.A.

   (Aves, Pl. LXXXIX.—XCII.)

   1. Arremon erythrorhynchus, Sclater. (Pl. LXXXIX.)
   A. olivaceus: capite nigro; vitta mediiali verticis, nucha cervi-
   cisque lateribus cinereis; superciliis et corpore subitis albis:
   torque gutturali angusta nigra: lateribus cinerascentibus:
   camptério flavo: pedibus albis: rostro elongatior, incurvo,
   rubro.
   Long, tota 5'8, ale 3'0, caudae 2'7.
   Hab. in Nova Grenada, Bogota.

   I have to thank Mr. Gould for allowing me to describe this new
   Arremon, which is from his collection. It is closely allied to my
   Arremon spectabilis (P. Z. S. 1854, p. 114. pl. 67) from Quixos,
   but may be distinguished by its more lengthened incurved and brilliant
   orange red-bill, and the yellow bend of the wing.

   2. Tachyphonus xanthopygius, Sclater. (Pl. XC.)
   Tachyphonus xanthopygius, Sclater, P. Z. S. 1854, p. 158. pl. 69 (♀).
   ♀ niger: tergo flavo: fascicula post-superciliari occinea: carpo
   summo dilute flavo: tectricibus subalaribus albis.
   Long, tota 6'1, ale 3'5, caudae 2'5.
   ♀ nigro-cinereus, subit dilutior; axillis et tectricibus subalaribus
   albis: tergo flavo.
   Hab. in Nova Grenada, Bogota.

   I described the female of this fine Tanager at the meeting of this
   Society on the 25th of July last year. M. Parzudaki of Paris has
   lately received several examples of both sexes from Bogota. A pair
   of these passed into the hands of the Vicomte DuBus, by whom
   they were characterized as new in the Bulletins de l'Académie Royale
de Belgique* for February last. A male bird from the same quarter has been kindly entrusted to me for examination before being deposited in the British Museum, where the female I originally named is also to be found. I cannot agree with the Vicomte DuBus in considering this species a *Lanio*, but, after seeing the male, am the more convinced that it is a true *Tachyphonus*.

3. **Tanagra notabilis**, Jardine. (Pl. XCI.)

*T. flavo-olivacea*: capite undique et mento nigris, macula nuchali triangulari, a dorso linea nigra divisa, flava; alis nigris caruleo marginatis, tectricibus autem summis dorso concoloribus: cauda nigra, margine vix careulescente: subitus late aurantio-flava; rostro pedibusque nigris.

*Long.* tota 7·2, alae 3·7, caudae 3·0.

*Hab.* in rep. Equatoriana.

Sir William Jardine has been so good as to lend me the types of this and the following species of Tanagers for examination. They were lately procured by Professor Jameson of Quito, during a botanical excursion along the eastern range of Cordilleras to the north of Quito, and are to be described with other rare birds, the product of the same or similar expeditions, in the forthcoming number of the new series of the Edinburgh New Philosophical Journal.

The present bird is a most brilliant fourth of the little section denominated *Compsocoma* by Cabanis, easily distinguished from the others by its yellow-olive back, triangular nape-spot, black chin and orange-yellow under-plumage, and may be therefore called *Compsocoma notabilis*, if that name is used generically. The other three species of this group are—(1) *Compsocoma victorini*, with its dark olive back and elongated nape-stripe, which is common in collections from Bogota; (2) *C. sumptuosa* (Arch. du Musée Paris., vii. p. 379. pl. 23), with the back black and uropygium olivascent, from Trans-Andean Ecuador—the same locality as the present—and Peru; and (3) *C. flavinucha*, a rare species in collections, which seems confined to Bolivia, where d’Orbigny discovered it on the eastern slope of the Andes of the province of La Paz.

4. **Saltator arremonops**, Jardine. (Pl. XCII.)

*S. rufo-brunneus*, olivaceo parum tinctus, pectore multo clarioire et rubescentiore: capite tuto mentoque nigris; vitta mediai vertcis et superciliari utrinque postice elongatis cum medio ventre cinereis: alis intus et cauda nigricantibus: rostro et pedibus nigris.

*Long.* tota 7·25, alae 3·2, caudae 3·5.

*Hab.* in rep. Equatoriana.

This peculiar Tanager in style of plumage and general habit con-

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* The article is entitled “Note sur quelques espèces inédites d’Oiseaux.” The *Nemosia torquata* therein described (sp. 10) is my *Daevis pulcherrima*, Rev. et Mag. de Zool. 1853, p. 480—(a true *Daevis* to my mind); and, is not *Vireosylvia femoral*, DuBus, sp. 1, the same as *V. altilugna*, Vicelli.—Cassin, Birds of Cal. pl. 37. p. 221—and *Phyllomanes mystacalis*, Cab. Wiegm. Arch. 1844, p. 348?
TANAGRA NOTABILIS. Jardine
12 3. SCOLANTHUS SPHÆRÖIDES 4. ACTINIA PALLIDA 5 6 7 ACT. ORNATA.

8. ACT. ORNATA Var.
responds most closely with the members of the genus *Arremon*, but the bill is altogether abnormal, the upper mandible swelling in the middle and overlapping the under, as in the genus *Launio*, though not developed into a decided hook. But the bill is much shorter, broader and deeper than in the last-named genus, and has more general resemblance to that of some of the *Saltatores*. The wings are very short, but the only skin sent belonging to a bird in moult, the comparative length of the remiges cannot be determined.

2. Description of a New Sea Anemone.  
By E. W. H. Holdsworth, F.Z.S.  
(Radiata, Pl. V.)

The species now to be described must be separated from the true *Actiniæ*, and may be well placed in the genus *Scolanthus*, which was proposed by Mr. Gosse for the reception of an animal obtained by him at Weymouth, and which presented the very distinctive characters of a perforated base, and the absence of a terminal adhesive disk. A description of that species will be found in the ‘Annals of Natural History’ for the year 1833, p. 157. These points of difference are accompanied, as might be expected, by a variation in habits, and the members of the genus will be found living buried in mud or sand, into which they retire on being alarmed, their extraordinary powers of inversion enabling them to hide at some little distance below the surface.

*Scolanthus sphæroïdes.* (Pl. V.)

This species, which I found tolerably abundant at Seaford, near Beachy Head, has, in expansion, the body lengthened and cylindrical, regularly striated longitudinally with fine transverse markings, the upper part sparingly covered with sucking-glands, not arranged in any definite order. Disk flat and even, but little exceeding the diameter of the body. Tentacula numerous, in three or four irregular series, the inner one containing from nine to twelve; these are the longest, and measure, when fully extended, about half an inch, or two-thirds of the breadth of the disk; the outer row consists of from fifty to sixty tentacula of the same slender tapering form as the inner ones, but are one-third shorter, the other series being intermediate in size and number. The body tapers a little posteriorly and terminates with a rounded base, having a distinct central perforation. When closely contracted, the two ends of the body are nearly alike, and the animal assumes the appearance of a more or less flattened sphere or bead, the resemblance to which is much increased by the presence of the terminal orifices.

The colour of the body is a dirty-white, and the upper portion is generally covered with particles of sand or mud adherent to the sucking-glands surrounding that part, and which help to conceal the animal when contracted, as is found to be the case with *Act. crassicornis*, and probably other species under similar circumstances. The mouth opens transversely, and from it very delicate white lines radiate
to the bases of the tentacula, interspersed with two or three shades of brown in the form of stripes or spots: in some specimens a circle of very pale spots with darker margins surrounds the mouth. The base of each tentaculum is very dark and is surmounted by a broad band of white or buff, the upper portion shading off to a clear pale pel- lucid brown, on which are three narrow distinct white rings, their breadth and the interspaces diminishing rapidly as they approach the tip. These animals are capable of assuming a great variety of shapes, and even when fully expanded sometimes elongate themselves to the extent of 1½ inch, or contract to little more than a ¼ of an inch. They feed readily in confinement; but those that had buried themselves in the sand appeared best able to secure their prey when placed within reach, the others on the surface often tumbling over in their endeavours to get the food into a proper position for swallow- ing, from not having the support of the surrounding sand or mud natural to them when buried. They were all found near low water- mark, imbedded in the fine chalky mud which fills the crevices of the rocks at Seaford, their expanded disks being just level with the surface, but so nearly covered that only a faint star-like outline was visible; on being touched they instantly disappeared; and so great was their power of inversion and contraction, that on digging carefully, they were generally found about 1½ inch deep, and having that peculiar bead-like form which has suggested the specific name of sphæroides. There was usually a depth of 6 or 7 inches of mud below them, so that they could not have been fastened to the rock; and since I have had them at home, now nearly five weeks, they have not shown the least inclination to attach themselves to the gravel, or glass sides of the tank in which they are living; three of them have burrowed into some sand on which they were placed, but the others remain on the surface, and are but rarely contracted. Soft mud is probably their natural habitat, being the most easily penetrated, and I could find no traces of any of these animals in a considerable tract of sand only a few yards from the locality whence these were obtained.

June 12, 1855.

W. Yarrell, Esq., in the Chair.

The following papers were read:—

1. **On Two New Species of Humming Birds.**

   **By John Gould, F.R.S.**

   I bring before the notice of the Meeting two species of beautiful Humming Birds, which I believe to be new to science: they belong to that section of the *Trochilidae* to which the generic appellation of *Heliothrix* has been given: of this form only three species have
been previously characterized, namely *H. auritus*, *H. auriculatus*, and *H. Barroti*. One of these new species, for which I propose the specific name of *purpureiceps*, is nearly allied to *H. Barroti*, but differs from that bird in having a much shorter bill, in the blue of the head being of a paler purple, and in that hue not being confined to the crown, but extending some distance down the nape of the neck. This species was obtained from the districts near Popayan. The second species, for which I propose the name of *phaïnolæma*, has several characters in common with *H. auritus* and *H. auriculatus*; it differs, however, from both those species in the beautiful metallic-green colouring extending over the throat and front, as well as the sides of the throat. The two species may be described as follows:—

**Heliotrichx purpureiceps.**

Male: Forehead, crown and nape beautiful purplish-blue; upper surface, upper tail-coverts, and upper and under wing-coverts beautiful golden-green; mark below the eye and ear-coverts black, terminating in a small blue tuft; below the black a streak of rich luminous green; wings purplish-black; central tail-feathers bluish-black; lateral tail-feathers, chin, throat, and under surface, pure white; bill black; feet flesh-colour.

Total length, 4½ inches; bill, ½; wing, 2½; tail, 1⅞.

*Hab.* Popayan.

**Heliotrichx phaïnolæma.**

Male: Head, upper surface, upper tail-coverts, upper and under wing-coverts rich golden-green, very brilliant on the head; wings purplish-black; four central tail-feathers bluish-black; lateral tail-feathers snowy-white; below and behind the eye a lengthened mark of black, terminating in a violet-blue tuft; chin, throat and sides of the neck rich luminous green; breast and under surface pure white; bill black; feet flesh-colour.

Total length, 4⅛ inches; bill, 1; wing, 2⅜; tail, 1⅕.

*Hab.* River Napo.

2. **On a New Species of the Genus Prion.**

By John Gould, F.R.S.

(Aves, Pl. XCIII.)

Through the kindness of Mr. Yarrell, I have the pleasure of bringing to the Meeting a bird which I conceive to be a new species of *Prion*, captured on the island of Madeira, or on the neighbouring rocky islets called the Desertas. I also exhibit five other species (forming part of my own collection), which I consider to belong to the same beautiful group, and which were captured by myself during my voyages to or from Australia.

The entire series present a great similarity in the colour of their plumage, but a great diversity in the breadth or lateral development of
their mandibles, as well as in the fringe-like pectinations of the base of the upper mandible; this latter character being much more prominent in the larger than in the smaller species of the group, in which, indeed, it is almost obsolete, if not entirely absent. I consider the members of this genus to constitute a very distinct group among the Petrels, quite equal in point of interest and value to that of the Thalassidrome. I have had many opportunities of observing the whole of them in their oceanic haunts, and did not fail to observe that every five or six degrees of latitude was frequented by a different and distinct species: they all inhabit the wide ocean, and rarely visit the land except for the purpose of incubation: they are often seen in immense flocks, and sometimes in multitudes: they never mount high in the air, but are altogether the most light, buoyant and fairy-like members of the great group to which they belong: their great stronghold is the temperate latitudes of the southern ocean, and until the occurrence of the present new species, I have never heard of one being found north of the equator. The species to which the Madeiran bird is most nearly allied, is that to which I have given the name of P. Ariel, and which I met with and shot in great numbers in Bass's Straits. It differs, however, in being smaller in all its admeasurements, in having a shorter, more swollen or robust bill, particularly with reference to the nostrils and the terminal hook of the upper mandible. For this new species I propose the name of

**Prion brevirostris. (Pl. XCIII.)**

Upper surface delicate blue; edge of the shoulder, the scapularies, outer margins of the external primaries and the tips of the middle tail-feathers black; lores, sides of the head and all the under surface white, stained with blue on the flanks and under tail-coverts; bill light blue, deepening into black on the sides of the nostrils and at the tip, and with a black line along the side of the under mandible; feet light blue, the interdigital membrane flesh-colour.

Total length, 10½ inches; bill, 1½; wing, 6½; tail, 3½; tarsi, 1½.

3. **Descriptions of some new Species of Ant-Thrushes** *(Formicariinae)* **from Santa Fé di Bogota.**

**By Philip Lutley Sclater, M.A., F.Z.S.**

(Aves, Pl. XCIV.—XCVII.)

1. **Grallaria hypoleuca.**

*G. supra ferruginea, loris albidis: subitus alba, lateribus magis cinerascentibus: tibiis et hypochondriis brunnescentibus.*

Long. tota 6·5, alæ 3·5, caudæ 1·8.

The collection of the Jardin des Plantes at Paris contains the only example I have yet seen of this bird, which appears to have escaped the notice of the French ornithologists. It is marked as having been received from Bogota in 1843 by M. Rieffer. Its form is typical, but in colouring it differs from all hitherto known members of the genus, though perhaps showing some resemblance to *Grallaria*
GRALLARIA MODESTA Schinz
brevicauda, (Bodd.) (Pl. Enl. 706. fig. 1), which is, however, much smaller. It is of a uniform ferruginous brown above and white below, passing into a cinereous tinge on the sides. Some brown colour is mixed with the feathers on the sides of the breast. The bill is black, the tarsi plumbeous; the thighs and the under wing-coverts brown.

2. **Grallaria modesta.** (Pl. XCIV.)

*G. supra intense brunnecenti-olivacea, alis caudaque nigrantibus brunneis olivaceo tinctis: subitus olivacea, flavescenti-albido flammulata; ventre medio flavescenti-albido: tectricibus subalaribus pallide castaneis: mandibula superiore plumbea, hujus apice et tomis et mandibula inferiore, nisi basi, albicantibus: pedibus pallide brunneis.*

Long. tota 6·2, alæ 3·2, caudae 1·8, tarsi 1·75.

This is a rather uniformly-coloured species, of which the British Museum contains a single specimen. There are indications of darker marginations to the feathers of the nape and back. The breast feathers are medially yellowish-white, broadly margined with olivaceous.

3. **Chamæza mollissima.** (Pl. XCV.)

*C. supra brunneo-castanea, remigibus tectricibusque intus nigrantibus: capitis lateribus et corpore toto subitus nigris, albo dense transvittatis: uropygi plunmis laxis, elongatis, densissimis: rostro Chamæzæ marginatæ similis sed minore.*

Long. tota 5·75, alæ 3·2, caudae 2·5.

This peculiar Ant-thrush, of which there is one specimen in the British Museum, has the lower back very densely feathered, the coverts reaching to within an inch of the end of the rectrices. The wings are shorter than is usual in *Chamæza*—the 4th, 5th, 6th and 7th primaries being nearly equal in length, but the 5th rather the longest; the tail rather more lengthened; the formation of the feet is much the same.

Above the colouring is of a brown chestnut, rather darker towards the tail; the sides of the head and whole under-plumage are blackish barred with white, every feather having three or more transverse white bars. A slight tinge of castaneous is intermixed, particularly on the breast.

4. **Formicivora callinota.** (Pl. XCVI.)


Long. tota 4·0, alæ 2·0, caudae 1·7.

This is an exceedingly pretty species of *Formicivora*, distinguished

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by the bright chestnut colouring of its lower back, above which, in
the middle of the back, are a few black-tipped feathers, forming a
small black patch. It must be placed next to the Brazilian Formi-
civora maculata, (Max.) (Leptorhynchus striolatus, Menetries, Mém.
de l’Ac. St. P. 1835, pl. 10. fig. 2*), with which it agrees in form and
style of plumage. A single example of it is in the British Museum.

5. Dysithamnus semicinereus. (Pl. XCVII.)
♂ cinereus, pileo intensiore; subitus medialiter albicantior: dorso
postico et remigum marginibus cum ventre imo olivascentibus:
tectaribus alarum tenuissime albo limbatis: rostro pedibusque
nigris.
♀ olivacea, pileo rufescente: guttura medio albo, lateraliter
cinerascense: ventre flavicanti-olivaceo; mandibula inferiore
basi albicante.

Long. tota 4'5, alæ 2'4, caudæ 1'6.
In this apparently new Dysithamnus, of which the British Museum
contains several specimens, the cinereous colour in the male occupies
the whole upper plumage down to the middle of the back, where it
gradually passes into olive, and the whole lower plumage down to
the middle of the belly, where a like colour supervenes. The middle
of the body beneath is much paler. The bill is rather longer than
in D. mentalis, but the form is otherwise the same. The genus to
which this bird belongs is certainly very closely connected with
Thamnophilus, but I doubt whether that form can be divided even as
a subfamily from the South American Ant-thrushes.

6. Pyriglena tyrannina. (Pl. XCVIII.)
♂ nigricanti-cinerea, carpo summo et alarum tectarum margini-
bus albis: plaga dorsi medii interna nivea: subitus paulo pal-
lidior, rostro et pedibus nigris.
♀ pallide brunnea, rufescente tincta; abdomen toto clarè rufo:
mandibula inferiore, nisi apice alba.

Long. tota 5'2, alæ 2'5, caudæ 2'25.
A series of specimens in the British Museum clearly connect the
somewhat dissimilar male and female of this species, which it is diffi-
cult to place satisfactorily in any of the present established genera
of this family as far as I am acquainted with them, though without
doubt a member of the group, with somewhat of a Tyrannine aspect.
The characteristic white patch underneath the feathers of the back
is well marked in both sexes.

* M. Menetries has made this bird a second species of his genus Leptorhynchus,
but I do not think it can be satisfactorily arranged along with the peculiar form
which he has made the type of his genus; and the name Leptorhynchus being
preoccupied, I propose to change it into Psilorhamphus. Type P. guttatus, mihi.
(Leptorhynchus guttatus, Men. pl. 10. fig. 1.)
DYSITHAMNUS SEMIGINEREUS Solander
By Dr. L. Pfeiffer.

(Mollusca, Pl. XXXI.)

1. Helix chamissoi, Pfr. H. testa imperforata, sublenticulari, tenui, superne irregulariter picata strisosque concentricis sub lente decussata, parum nitida, pallide straminea; spira brevissime conoidea; anfr. 4½ vix convexiusculis, sensim accrescentibus, ultimo non descendentе, medio carinato, basi sublaevigato, lutescente; apertura vix obliquа, angulato-lunari; perist. simplice, recto, acuto.
Diam. maj. 9, min. 7½, alt. 4½ mill.
Hab. Sandwich Islands.

2. Helix nepos, Pfr. H. testa perforata, turbinato-depressa, tenui, levigata, nitidissima, pellucida, purpurascenti-fusca; spira magis minusve conoideo-elevata, vertice subtili, acutiuscula; sutura impressa; anfr. 5 convexiusculis, sensim accrescentibus, ultimo non descendentе, basi modice convexo; apertura subverticali, late lunari; perist. simplice, recto, marginе columnari subverticali, calloso, superne anguste reflexо.
Diam. mag. 8, min. 7, alt. 5 mill.
Hab. Ceylon (Mr. Thwaites).

3. Helix subrecta, Pfr. H. testa subobtecte perforata, conoidea, tenui, conferta striata, superne lineis impressis, spiralibus subgranulata, diaphana, pallide cornea; spira conoidea, apice obtusa; anfr. 6 convexiusculis, sensim accrescentibus, ultimo non descendentе, peripheria compresse carinato, basi convexо, sublaevigato; apertura obliquа, rotundato-lunari, subangulata, intus nitida; perist. tenui, recto, marginе vix convergentibus, basali arcuato, ad perforationem dilatato, subadnato.
Diam. maj. 15, min. 13½, alt. 9 mill.
Hab. Salomon’s Islands.

4. Helix convexiuscula, Pfr. H. testa perforata, globosoturbinata, tenui, rugulosо-striata, pellucida, pallide cornea; spira cornea, apice obtusa; anfr. 5½ modice convexis, sensim accrescentibus, ultimo non descendentе, peripheria obtuse carinato, basi convexо; apertura obliquа, rotundato-lunari, intus submargaritacea; perist. simplice, recto, marginе vix convergentibus, columnari superne brevissimo reflexо.
Diam. maj. 12, min. 10½, alt. 8½ mill.
Hab. Ceylon (Mr. Thwaites).

5. Helix mozambicensis, Pfr. H. testa perforata, trochiformi, tenuiscula, confidentim et oblique capillaceo-striata, sericea, fusco-fulva; spira conoidea, acutiuscula; sutura submargaritacea; anfr. 5 convexiusculis, lente accrescentibus, ultimo medio carina
compressa, albo munita, antice non descendente, basi convexiore; apertura diagonalis, angulato-lunaris; perist. simplus, acute, margine columnallari superne brevissime reflexo.

Diam. maj. 12, min. 10½, alt. 6½ mill.

Hab. Tette, Mozambique (Peters).

6. Helix textrix, Pfr. H. testa umbilicata, depressa, tenuis, striatula et subdistanter arcuato-plicata, diaphana, vix nitidula, pallide cornea, lineis angulosis rufis amone picta; spira vix convexiuscula; anfr. 5 planiusculis, ultimo depresso, peripheria subangulata, antice non descendente, basi convexio; umbilico conico, ¼ diametri subaequante; apertura diagonalis, subtriangulo-lunaris; perist. simplus, recto, marginis dextro antrorsum dilatato, columnallari fere verticali.

Diam. maj. 8, min. 6, alt. 2½ mill.

Hab. Lord Howe’s Island, New Hebrides (Macgillivray).

7. Helix ignava, Pfr. H. testa umbilicata, depressa, solidula, oblique rugoso-striata striisque spiralibus subregulariter decussata, parum nitida, fulvo-lutescente; spira vix convexa; anfr. fere 4 convexiusculis, ultimo subdepresso, non descendente, prope suturam impresso, basi convexio; umbilico conico, ⅓ diametri fere aequante; apertura diagonalis, lunato-rotundata; perist. simplus, recto, marginibus conniventibus, columnallari vix dilatato.

Diam. maj. 7, min. 5½, alt. 3 mill.

Hab. Lord Howe’s Island, New Hebrides (Macgillivray).

8. Helix cæcilia, Pfr. H. testa angustissime umbilicata, depressa, tenuiuscula, conferte capillaceo-plicata, parum nitida, cerea; spira plana, medio subimmersa; anfr. 4½ convexis, lente accrescentibus, ultimo non descendente, aliove quam lato; apertura parum obliqua, lunari; perist. simplus, recto, marginibus remolis, dextro superne leviter arcuato, tum substrati oblique descendente, columnallari declivi.

Diam. maj. 4½, min. 4, alt. 2 mill.

Hab. Lord Howe’s Island, New Hebrides (Macgillivray).

9. Helix matura, Pfr. H. testa umbilicata, conoideo-ventricolare, tenuiuscula, acute carinata, striatula, saturate castanea; spira breviter conoidea, vertice pallido, obtusulo; sutura carina submarginata; anfr. 5½ vix convexiusculis, ultimo antice breviter deflexo, basi parum convexo, circa umbilicum latissimum, conicum obsolete angulato; apertura perobliqua, subrhombica; perist. albo, margine supero recto, antorsum arcuato, basali intus late incrassato, fere dentato, columella breviter ascendente.

Diam. maj. 20, min. 18, alt. 8 mill.

Hab. Guadalcanar, Salomon’s Islands. Pl. XXXI. fig. 10.

10. Helix yatesi, Pfr. H. testa umbilicata, conoideo-depressa, tenuiuscula, striatula et sub lente minutissime granulata, satu-
rate castanea; spira breviter conoidea, obtusula; sutura vix impressa; anfr. 4½ plantinsulis, sensim accrescentibus, ultimo acute carinata, antice subito perdeflexo, circa umbilicum medio-crem subinflato, antice profunde et late scrobiculato; apertura subhorizontali, piriformi-elliptica, lamella parietali longa, parum flexuosa, sublibera, angustata; perist. continuo, albo, undique sulato, margine supero subexpanso, basali medio dente conico munito, tum descendent et dentibus 2 divergentibus, basi lato junctis instructo.

Diam. maj. 24, min. 22, alt. 2¼ mill.

β. Minor, fusco-cornea, umbilico paulo angustiore.

Hab. Banks of the river Solimoes, Brazil (Mr. Yates).

Plate XXXI. fig. 13, 14.

*B. testa imperforata, conico-ovata, tenuinsula, striataula, nitida, subdiaphana, alba; spira convexiusculo-conica, apice obtusa; sutura anguste marginata; anfr. 5 convexiusculos, ultimo subrotundato; columella striata, vix obliqua, callosa; apertura fere diagonalis, truncato-ovalis, intus concolor; perist. breviter expanso, margine columnarum dilatato, adnato, cum basali angulum distinctum formante.

Long. 32, diam. 23 mill.

Hab. Philippine Islands.

*B. testa imperforata, fusiformi-oblunga, solida, leevigata, sub epidermide non nitente fusco-olivacea, fascis nigris, maculis sagittiformibus luteis interruptis, picta; spira elongato-conica, obtusa; sutura leviter marginata; anfr. 8 convexiusculus, ultimo ½ longitudinis vix superante, basi attenuato; columella callosa, superne valde plicata; apertura subverticali, elliptico-oblunga, basi subangulata, intus caeruleo-albida; perist. incrassato, breviter expanso, marginibus callo sordide carneo junctis.

Long. 82, diam. 32 mill.

Hab. Meobamba, Eastern Peru (Mr. Yates).  
Pl. XXXI. fig. 5.

*B. testa imperforata, ovata, teeni, capillaceo-striata, fulva; spira ovato-conica, obtusissima; sutura albido-marginata, crenulata; anfr. 5 convexiusculus, ultimo inflato, ⅔ longitudinis aequante, subuplicato, inter plicas dense striato et stris distantibus spiralis obsollete decussato; columella rosea, recedente, vix plicata; apertura parum obliqua, oblongo-ovalis, intus fulva, antice albida; perist. roseo, incrassato, reflexiusculo-expanso, margine columnarum dilatato, fornicate, adnato.

Long. 64, diam. 37 mill.

Hab. Banks of the river Solimoes (Mr. Yates).

*B. testa anguste umbilicata, sulfusiformi-oblunga, tenuinsula, sublevigata, nitidula, albida, fasciis subinterruptis vel strigis subangulosus nigrieantibus
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pieta; spira elongato-conica, acutiuscula; anfr. 7 convexiusculis, ultimo spiram subæquate, basi attenuato, non compresso; columella saturate violacea, leviter procedente; apertura vix obliqua, oblongo-ovali; perist. tenui, undique late expanso, patente.

Long. 38, diam. 14 mill.

Hab. Santa Fé de Bogota.

15. Bulimus lacerta, Pfr. B. testa compresse subumbilicata, fusiformi-oblonga, tenui, plicatula et striis irregularibus spirali-bus oblongo-granosa, lutescenti-albida, striis latis, obliquis, subramosis, fusci variegata; spira convexo-conica, acutiuscula; sutura subfilomarginata, crenidata; anfr. 5 convexiusculis, ultimo spiram paulo superante, basi attenuato; columella fusca, valide oblique torto-plicata; apertura vix obliqua, sinuato-oblonga; perist. albo, expanso et reflexiuseulo, marginis dextro superne arcuato, tum substricto, columellari fornicato, flexuoso.

Long. 33, diam. 14 mill.

Hab. Para (Mr. Yates). Pl. XXXI. fig. 15.

16. Bulimus saccatus, Pfr. B. testa compresse umbilicata, ovato-pyramidata, tenui, leviter striatula, nitida, albida, fasciis 4-5 nigricantibus ornata; spira regulariter elongato-conica, apice acuta; anfr. 6 convexiusculis, ultimo spira breviore, rotundato, basi subsaccato, distinctius striato; columella violacea, superfine levissime plicata; apertura subcirculari, truncato-ovali, intus violaceo cincta; perist. pallido, dilatato, fere rectangulo patente, marginibus approximatis, dextro superne perarcuato, columellari substricto.

Long. 22, diam. 10 mill.

β. Paulo gracilior, unicolor, albido-flavidus, columella et margine interno aperturce violaceis.

Hab. Meobamba, Eastern Peru (Mr. Yates). Pl. XXXI. fig. 2.

17. Bulimus protractus, Pfr. B. testa profunde compresse umbilicata, oblongo-pyramidata, tenuissima, confertim subarcuato-striata, albido-flavescente; spira protracta, apice acutiuscula, nigricante; anfr. 7 parum concesis, ultimo spira vix breviore, antice breuiter ascendent, fortius striato, basi subcompresso; columella subplicata, recedente; apertura vix obliqua, oblonga, basi effusa, intus alba vel pallide lilacina; perist. late expanso et reflexiuseulo, marginis columellari sinuato, perdilatato, patente.

Long. 30, diam. 11½ mill.

β. Minor, anfractu ultimo subangulato, margine dextro peristomatis magis curvato.

Hab. Meobamba, Eastern Peru (Mr. Yates). Pl. XXXI. fig. 1.

18. Bulimus serratus, Pfr. B. testa profunde rimata, subperforata, fusiformi, tenui, laevigata, albida, strigis spadiceis
remote serratis picta; spira conica, acutiuscula; anfr. 6 convexusculis, ultimo spiram superante, antice subascendente, basi attenuato; columella compressa, leviter arcuata, sulco obliquo ab anfractu penultimo separata; apertura perobliqua, ampla, acuminato-ovali, intus pallide lilacea; perist. tenui, late expanso, margine columellari abrupte reflexo.

Long. 27, diam. 11 mill.

Hab. Meobamba, Eastern Peru (Mr. Yates). Pl. XXXI. fig. 6.


Long. 22, diam. 9½ mill.

Hab. Meobamba, Eastern Peru (Mr. Yates). Pl. XXXI. fig. 3.

20. Bulimus arcuato-striatus, Pfr. B. testa profunde rimata, ovato-pyramidata, tenui, confertim arcuato-striata, albida, fascis latis griseo-fusci, strigatim interruptis, strigisque angulosi irregulariter picta; spira convexiusculo-conica, apice nigra, obtusiuscula; anfr. 6 modice convexis, ultimo spiram subaequante, antice subascendente, basi parum attenuato; columella vix plicata, subverticali; apertura parum obliqua, oblique truncato-ovali; perist. tenui, late expanso, margin dextra leviter arcuata, columellari fornacatim reflexo, patente.

Long. 30, diam. 13 mill.

Hab. Peru.

21. Bulimus incarnatus, Pfr. B. testa compresse umbilicata, oblongo-conica, tenui, sublaveligata, roseo-carnea, strigis spadiceis irregulariter variegata; spira elongato-conica, acutiuscula; sutura levii, pallida; anfr. 7 planiusculis, ultimo spira paulo breviore, basi subcompresso; columella compressa, substricta recedente; apertura vix obliqua, oblongo-ovali; perist. tenui, margin dextra breviter expanso, columellari late reflexo, patente.

Long. 31, diam. 12 mill.

Hab. Venezuela.

22. Bulimus cuticula, Pfr. B. testa perforata, ovato-fusiformi, membranacea, striatula, haud nitente, diaphana, pallidissime cornea, fusculo punctatione striatula et niveo-punctata; spira conica, obtusula; sutura minute crenulata; anfr. 4½ convexusculis, ultimo ½ longitudinis formante, infra medium fascia pallida, superne fusco-marginata ornata, basi attenuato; columella subplicata, recedente; apertura parum obliqua, acumi-
nato-oblonga; perist. simplice, recto, margine columellari nitido, reflexo.
Long. 28, diam. 13 mill.
Hab. Rio Janeiro.

23. **Bulimus singaporensis**, Pfr. *B. testa imperforata, ovato-turrta, tenuissima, laevigata, pallidula, pallide cornea, lineis fusulis longitudinalibus nonnullisque spiralibus infra medium anfractus ultimi notata; spira regulariter conica, apice acutissima; anfr. 9 convexissculus, ultimo ⅔ longitudinis paulo superante, rotundato; apertura vix obliqua, ovali; perist. simplice, recto, margine columellari subcalloso, adnato.
Long. 8, diam. 4½ mill.
Hab. Singapore.

Long. 88, diam. 46 mill.
Hab. Meobamba, Eastern Peru (Mr. Yates).

25. **Bulimus rectilinearis**, Pfr. *B. testa subperforata, oblongo-pyramidata, tenui, levissime striatula, diaphana, albida, fascis 3 rubicundis et 2 basilibus castaneis, albo-articulatis notata; spira elongato-conica, subrectilineari, apice aurantiaca, acutisscula; anfr. 7 planiusculus, ultimo ⅔ longitudinis paulo superante, basi rotundato; columella subverticali; apertura obliqua, ovali-elliptica; perist. simplice, recto, margine columellari fornicato-reflexo.
Long. 24 diam. 10½ mill.
Hab. Meobamba, Eastern Peru (Mr. Yates). Pl. XXXI. fig. 7.

26. **Bulimus amandus**, Pfr. *B. testa anguste perforata, oblongo-conica, tenui, sublaevigata (sub lente exilissime spiraliter striata), diaphana, pallidissime rosea; spira elongato-conica, acutisscula; anfr. 6 convexissculus, ultimo spira paulo breviorre, infra medium obsolete angulato, basi vix attenuato; columella arcuata, compressa; apertura obliqua, angulato-ovali; perist. simplice, recto, acuto, margine columellari anguste et abrupte reflexo.
Long. 30, diam. 11½ mill.
Hab. Venezuela. Pl. XXXI. fig. 4.

27. **Bulimus melanacme**, Pfr. *B. testa perforata, globosaconica, solidula, sublaevigata, alba, punctis obscuris pellucidis
raris aspersa; spira turbinata, apice acuta, nigra; anfr. 6 modo
dice convexus, regulariter accrescentibus, ultimo spira paulo
breviore, rotundato; apertura obliqua, truncato-ovali; perist.
simplex, recto, margine columellari papyraceo, superne perdila-
tato, fornicatim reflexo.

Long. 17, diam. 10 mill.

*Hab.* Tette, Mozambique (Peters). Pl. XXXI. fig. 8.

28. **Bulimus petersi**, Pfr. *B. testa umbilicata, ovato-conica,
  solidula, confertim plicato-striata, parum nitida, pallide rubello-
cornea; spira elongato-conica, apice saturate cornea, obtusa;
anfr. 6½ convexus, ultimo vix striatulo, ¾ longitudinis aequante, basi
juxta umbilicum mediocrem, conicum sub-
compresso; apertura vix obliqua, oblonga; perist. simplex,
recto, margine dextro leviter arcuato, columellari dilatato,
patente.

Long. 12½, diam. 6 mill.

*Hab.* Tette, Mozambique (Peters).

29. **Bulimus juvenilis**, Pfr. *B. testa perforata, ovato-fusi-
iforme, tenui, levissime striatula, haud nitente, pallide rubello-
cornea; spira elongato-conica, apice acutiuscula; anfr. 6½ vix
convexiusculis, ultimo spira paulo breviore, medio obsolete sub-
angulato, basi attenuato; columella substricta, paululum rece-
dente; apertura obliqua, ovali-elliptica, basi subangulata;
perist. simplex, recto, margine dextro regulariter arcuato, colum-
ellari albo, nitido, sursum dilatato, fornicatim reflexo.

Long. 20, diam. 8½ mill.

*Hab.* Santa Fé de Bogota.

30. **Partula stenostoma**, Pfr. *P. testa umbilicata, dextrorsa,
  oblongo-conica, solidula, confertim striolata, nitida, fulva, fusco-
subnebulosa, lute castaneo bifasciata; spira elongato-conica,
acutiuscula; sutura levi, albida; anfr. 5½ vix convexiusculis,
ultimo spira breviore, basi subcompresso-rotundato; columella
oblique procedente, superne leviter plicata; apertura parum
obliqua, angusta, truncato-oblonga, callo dentiformi profundo
anfractus penultimi coarctata; perist. callosio, albo, undique
expanso et reflexiusculo, margine dextro superne sinusato.

Long. 22, diam. 10½ mill.

*Hab.* — ?

31. **Partula macgillivrayi**, Pfr. *P. testa late et compresse
umbilicata, conica, tenuiuscula, irregulariter striatula et sub
lente striis spiralibus confertis sculpta, albida, strigis lutescen-
tibus fascisque obsoletis notata; spira elongato-conica, acutius-
cula; anfr. 5 vix convexiusculis, ultimo spiram subaequante,
ante subascendente, basi saccato; columella leviter arcuata,
in fundo leviter plicata; apertura parum obliqua, truncato-
oblonga; perist. albo, tenui, eequaliter subrectangule expanso.

Long. 23, diam. 11 mill.

*Hab.* New Hebrides (Macgillivray).
32. **Partula suturalis**, Pfr. *P. testa anguste perforata, oblongo-conica, tenui, spiraliter distincte striata, fulvo-lutea, strigis castaneis irregulatim picta; spira convexo-conica, acuta; sutura filo albo marginata; anfr. 5½ convexiusculis, ultimo spira vix breviore, superne subturgido, basi attenuato; columella subsimplice, fere verticali; apertura vix obliqua, truncato-oblonga; perist. albo, tenui, margine dextro anguste expanso, superne sinuato, columellari dilatato, fornicate reflexo.\[Long. 19, diam. 9 mill.\]

_Hab._ — ?

33. **Partula repanda**, Pfr. *P. testa compresse umbilicata, ovato-conica, solidula, sub lente minutissime spiraliter striata, parum nitente, pallide lutescente, versus apicem interdum rosea; spira conica, acutiuscula; anfr. 5 modice convexis, ultimo spiram paulo superante, medio antice subimpresso, basi saccato; columella subverticalis, superne subplicata; apertura parum oblonga; perist. albido, expanso, intus calloso, margine dextro repando, intus supra medium subdentato.\[Long. 17, diam. 9 mill.\]

_Hab._ New Hebrides.

34. **Partula mucida**, Pfr. *P. testa perforata, ovato-conica, solidula, confluent spiraliter striata, castanea, griseo quasi mucida; spira elongato-conica, acuta; sutura levi, albida; anfr. 5 vix convexiusculis, ultimo spiram vix æquante, infra medium obsolete angulato, basi subsaccato; columella superne plicata; apertura obliqua, obauriformi; perist. carneo, rectangularæ æqualiter expanso, intus callo prominulo labiato.\[Long. 17½, diam. 8½ mill.\]

_Hab._ Pacific Islands.

35. **Achatinella (Leptachatina) obclavata**, Pfr. *A. testa subperforata, clavéoformi, tenui, vix striatula, parum nitente, pallide cornea; spira elongata, apice obtusa; sutura linea impressa, filum crenatum formante, crenata; anfr. 7½ vix convexiusculis, ultimo ¾ longitutinis paulo superante; plica columellari obliqua, subtorta; apertura verticali, oblonga; perist. simplice, margine dextro medio antrorsum dilatato; columellari angusto, subadnato.\[Long. 7½, diam. 3 mill.\]

_Hab._ Sandwich Islands (Dr. Newcomb).

36. **Achatinella (Auriculella) chamissoi**, Pfr. *A. testa subperforata, oblonga, pyramidata, solidiuscula, striis spiralibus sub lente sculpta, epidermide fusco, obsolete striigata induta; spira elongato-conica, obtusiuscula; anfr. 7½ planiusculis, ultimo ¾ longitutinis subæquante, basi subcompresso; apertura vix obliqua, auriformi; lamella parietali valida, extus deorsum ramosa; plica columellaris levi, subtorta, alba; perist. albido, expansiusculo.\[Long. 8, diam. 3½ mill.\]

_Hab._ Sandwich Islands.
*Hab.* Venezuela.

38. **Spiraxis barclayi**, Pfr. *Sp. testa oblonga, tenui, laevigata, cornea; spira convexo-conica, acutiuscula; sutura levii, simplice; anfr. 5 convexusculis, penultimo magno, ultimo spira paulo breviori, basi vix attenuato; apertura verticali, acuminato-oblonga; columella oblique et leviter historta; perist. simplice, recto, margine dextro superne sinuato, medio subangulatum antorsum dilatato. Long. 9, diam. 4 mill. 
*Hab.* Isle of France (Sir D. Barclay).

39. **Achatina inaequalis**, Pfr. *A. testa ovato-oblonga, tenui, strigis et flavmis luteis, fulvis et castaneis irregulariter picta; spira elongato-conica, obtusa; sutura superne crenulata, in anfractu ultimo funiculo pallido crenulato munita; anfr. 7 convexiusculis, superis granulato-decussatis, ultimo spiram vix superante, subrugato, ad suturam obsolete granulato, basi subattenuato; columella leviter torta, albida, oblique truncata; apertura verticali, angulato-oralis, intus cæruleant; perist. recto, margine dextro fusco-limbato. Long. 78, diam. 38 mill. 
*Hab.* Fernando Po.

40. **Achatina chrysallis**, Pfr. *A. testa oblongo-turrita, solidula, striatula, ad suturam linearem arcuato-plicata, pallide lutescente; spira subcylindracea, apice conica, obtusa; anfr. 10 planiusculis, ultimo 3/4 longitudinis subaequante, basi rotundato; columella callosa, basi abrupte truncata; apertura verticali, sinuato-ovali; perist. recto, margine dextro arcuato, intus subincrassato. Long. 9, diam. 3½ mill. 
*Hab.* Sandwich Islands.

41. **Achatina yatesi**, Pfr. *A. testa turrita, tenuiuscula, leviter striatula, diaphana, cerea; spira regulariter attenuata, obtusa; sutura profunda; anfr. 7 convexis, ultimo 3/4 longitudinis vix superante, infra medium subangulato; columella arcuata, oblique distincte truncata; apertura vix obliqua, ovali-rotundata; perist. simplice, recto. Long. 11, diam. 3½ mill. 
*Hab.* Meobamba, Eastern Peru (Mr. Yates).
42. Achatina (Glandina) nystiana, Pfr. *A. testa fusiformi-oblonga, tenui, sublabiata, levissime striatula, pellucida, nitida, carnea; spira elongata, gracili, obtusa; sutura filo-marginata; anfr. 6½ convexusculis, ultimo ¾ longitudinis subæquante, basi attenuato; columnella levissime arcuata, basi breviter et horizontaliter truncata; apertura viix obliqua, ovali-elliptica; perist. simplice, tenui.
Long. 47, diam. 12 mill.
Hab. — ?

43. Achatina (Glandina) conularis, Pfr. *A. testa oblongo-conica, tenuiuscula, levigata, nitida, fusculo-carnæa; spira elongato-conica, obtusa; sutura filo albida marginata; anfr. 6 vix convexiusculis, ultimo spiram æquante vel paulo breviore, basi parum attenuato; columnella levissime arcuata, abrupte truncata; apertura subverticali, acuminato-ovali; perist. simplice, acuto.
Long. 23, diam. 8½ mill.
Hab. Mexico (Mr. Sallé).

44. Achatina (Glandina) filosa, Pfr. *A. testa oblonga, solida, longitudinaliter conferte filoso-pectata, pallide rosea; spira elongata, convexo-conica, obtusa; sutura subsimplice; anfr. 6 vix convexis, ultimo spiram æquante, basi subattenuato; columnella levissime arcuata, rugata, ad basin apertura abrupte truncata; apertura subverticali, acuminato-ovali, intus saturate carnea; perist. simplice, margine dextra strictiusculo.
Long. 39, diam. 14 mill.
Hab. — ?

45. Achatina (Glandina) insignis, Pfr. *A. testa ovato-oblonga, solidula, subdistanter distincte plicata, interstititis subtiliter decussato-granulatis, parum nitida, carnea, plicis albidis; spira elongato-conica, sursum saturatiore, apice obtusa, fuscula; sutura linea impressa marginata et denticulis regularibus elegantia sculpta; anfr. 7 convexiusculis, ultimo spiram subæquante, basi subattenuato; columnella crassa, subverticali, basi late et abrupte truncata; apertura verticali, anguste elliptica, intus albida; perist. simplice.
Long. 48, diam. 18 mill.
Hab. — ? Pl. XXXI. fig. 11, 12.

46. Ennea anodon, Pfr. *E. testa profunde rimata, oblongo-ovata, solidula, oblique distincte striata, alabastrina; spira ovata, versus apicem obtusum sensim attenuata; anfr. 6–7 vix convexiusculis, penultimo latere apertura subplanato, ultimo attenuato, ¾ longitudinis formante, antico arcualim ascendentem, basi rotundato; columnella superne oblique plicata; apertura verticali, truncato-ovali; perist. subincrassato, expanso, mar-
Fig. 2 S Mollusca XXXII

1. *Lumina longa*
2. *Bulimia laevigata* 
3. *B. marina* 
4. *B. unguis* 
5. *B. triloba* 
6. *B. teijsmanni* 
7. *B. hildebrandti* 
8. *B. typica* 
9. *B. andrewsi* 
10. *B. teijsmanni*

(Mollusca, Pl. XXXII.)

1. TrochateLLa excavata, Pfr. Tr. testa depressio-globosa, spiraliter levissime tirata, opaca, carnea, convexa, acute mucronata; anfr. 6 vix convexusculis, ultimo inftato, obsoletissime subangulato; columna lata, triangulari, excavata; apertura diagonalii, ampla, subsemicirculari, in fundo fusco-carna; perist. albo, late expanso, ad columnella angulum subrotundatum an-gustato.

Diam. maj. 13½, min. 11½, alt. 9½ mill.
Hab. — ?

2. Helicina repanda, Pfr. H. testa conoideo-semiglobosa, solida, levissime striatula, nitidula, lutescenti-albida, fascia l rubra supramediana ornata; spira convexa, subacuminata; anfr. 4½ vix convexiusculis, ultimo antice descendentem; columna brevi, simplice, callum crassum, circumscriptum retrorsum emittente; apertura diagonalii, subtriangularii; perist. recto, incrassato, margine supero repando, basali versus columnam attenuato.

Diam. maj. 8, min. 6½, alt. 5 mill.
Hab. — ?

3. Helicina zebriolata, Pfr. H. testa subconoideo-depressa, tenui, striatula, parum nitida, strigis flexuosis rubris et albis variegata, vel rubra, albo-punctata; spira parvula, parum elata, subacuta; anfr. 4½ planis, ultimo lato, acute carinato, basi in-flato; columna brevi, simplice, callum emittente tenuem; aper-
tura perobliqua, semiovato-subtriangulari; perist. simplice, recto, margin basali in columellam subangulatim transeunte.

Diam. maj. $6\frac{3}{4}$, min. $5\frac{1}{2}$, alt. $3\frac{1}{2}$ mill.

Hab. Lord Howe's Island, Australian Seas (Macgillivray).

4. Helicina rudis, Pfr. H. testa conoideo-depressa, solidula, ruditer striatula et submalleata, filo-carinata, fulva; spira conoidea, acutiuscula; anfr. $4\frac{1}{2}$ planis, ultimo descendentem, basi param convexo; columella brevi, simplice, callum tenuem, circumscriptum retrorsum emittente; apertura diagonalis, subtriangularis; perist. simplice, recto, acuto, margin basali cum columella angulum subrectum formante.

Diam. maj. $4\frac{1}{3}$, min. $3\frac{1}{3}$, alt. 3 mill.

Hab. ?

5. Helix shanghaiensis, Pfr. H. testa depresse conoidea, tenui, carinata, levigata, pallide cornea, rufo-strigata; spira breviter conoidea, obtusula; anfr. 5 convexiusculis, ultimo non descendentem, ad suturam et carinam abacatum pallide articulata, basi convexitore; columella brevi, verticali, callum emittente tenuem; apertura fere diagonalis, subtriangularis; perist. simplice, recto, acuto, margin basali leviter arcuato, cum columella angulum formante.

Diam. maj. $4\frac{1}{2}$, min. 4, alt. $2\frac{2}{3}$ mill.

Hab. Shanghai, China (Mr. Fortune).

6. Helicina sphæroidea, Pfr. H. testa subglobosa, solidula, sub lente minutissime striata, parum nitente, pallide virenti-striata; spira rotundata, subacuminata; anfr. $4\frac{1}{3}$ convexiusculis, ultimo magno, infra medium obsoletissime angulato; columella albo-callosa, recedente, basi indistincte dentata, callum emittente diffusum; apertura diagonalis, late semiovali; perist. simplice, brevissime expanso, margin basali cum columella angulum subacutum formante.

Diam. maj. 7, min. 6, alt. $5\frac{1}{4}$ mill.

Hab. Loyalty Island, Australian Seas (Macgillivray).

7. Helicina merdigera, Sallé MSS. H. testa globoso-turbinate, tenui, irregulariter et subdistanter striata, sub tegumento lutoso rubicundo vel hyalina; spira elata, conica, acutiuscula; anfr. $5\frac{1}{2}$ convexiusculis, ultimo utrinque convexitore; columella brevi, basi extrorsum subdentata, callum emittente tenuissimum; apertura diagonalis, subsemicirculari; perist. simplice, breviter expanso, margin basali sensim in denticulum columellae abente.

Diam. maj. 6, min. 5, alt. $4\frac{1}{2}$ mill.

Hab. Vera Cruz, Mexico (Sallé).

8. Helicina macgillivrayi, Pfr. H. testa subconoideo-depressa, solidula, spiraliter obsolete striata, nitidula, carne vel pallide lilacea, indistincte fasciata; spira breviter conoidea, subacuminata; anfr. $4\frac{1}{3}$ planis, ultimo peripheria obsoletissime angulato;
apertura perobliqua, subtriangulato-semiovali; columella brevi, callum emittente crassiusculum, sulco brevi circumscriptum; perist. simplice, breviter expanso, versus callum lam attenuato.
Diam. maj. $6\frac{3}{4}$, min. $5\frac{1}{2}$, alt. 4 mill.

_Hab._ Isle of Pines, Australian Seas (Macgillivray).

9. _Helicina denticulata_, Pfr. _H._ testa globoso-conica, solida, oblique striata, minutissime decussata, rugis antrorsum descendenti subantularis distantiobis sculpta, parum nitida, alba, superfite flavo-fasciata; spira convexo-conica, acuta; sutura elegantem denticulata; anfr. $5\frac{1}{2}$ sulco convexusculus, ultimo peripheria subangulato, basi parum convexo; columella breviter arcuata, antorum dentata, superne rima brevi notata; retrorsum in callum tenuem abuente; apertura subtriangulari-semiovali; perist. albo, angularim patente, medio in rostrum triangulare producto.
Diam. maj. a rostro 13, min. fere 11, alt. 9 mill.
_Hab._ Honduras.

10. _Helicina turbinella_, Pfr. _H._ testa turbinata, solida, leviter striatula, vix nitida, lutescente; spira conoidea, acutiuscula; anfr. $4\frac{1}{2}$ convexusculus, ultimo carinato, basi convexo; columella breviter, subverticali, basi subtruncata, callum retrorsum emittente tenuissimum; apertura diagonali, subtriangulari-semiovali; perist. albido, tenui, breviter expanso, margin basali leviter arcuato.
Diam. maj. $4\frac{3}{4}$, min. 4, alt. 3 mill.
_Hab._ Sidney.

11. _Cyclostoma (Cyclotus) glaucostomum_, Pfr. _C._ testa umbilicata, subturbinato-depressa, solidula, striata et pliciis obliquis superne irregulariter sculpta, nitida, castanea; spira brevissime conoidea, apice obtusulo, nudulo; anfr. 4 convexis, rapide accrescentibus, ultimo antice dilatato, brevi minute malleato-granulato; umbilico pervio, $\frac{1}{4}$ diametri non aquante; apertura vix obliqua, subrotundata, intus cerulea, margaritacea; perist. recto, marginibus superne subangulatim junctis, columellari subincrassato, perarcuato.
Diam. maj. 18, min. 14, alt. 9 mill.
_Hab._ Venezuela.

12. _Cyclostoma (Cyclotus) sordidum_, Pfr. _C._ testa umbilicata, conoidea-depressa, solidula, levissime et confertim spiraliter lirata, sub epidermide decidua, fulva sordide alba; spira conoidea, mucronata; anfr. 4 convexis, celeriter accrescentibus, ultimo terete, antice vix adnato; apertura parum obliqua, subcirculari; perist. simplice, continuo, vix expansiusculo.
Diam. maj. $7\frac{1}{2}$, min. $6\frac{1}{2}$, alt. 4$\frac{3}{4}$ mill.
_Hab._ China.

13. _Cyclostoma (Cyclotus) macgillivrayi_, Pfr. _C._ testa umbilicata, turbinato-depressa, solida, rugoso-striata et livis
spiralibus in anfr. ultimo evanescentibus sculpta, opaca, carneo-
albida; spira convexo-conoidea, submicronata; anfr. 4½ con-
veiuisculis, sensim accesscentibus, ultimo subdepresso, basi circa
umbilicum conicum, ½ diametri fere equantem, abrupte angulato;
apertura obliqua, superne et basi subangulata; perist. continuo,
obusto, recto, ad angulum circa umbilicalen subproducto.—Operc.
concano, calcarea, arcitspirali.
Diam. maj. 9, min. 7½, alt. 5 mill.
Hab. Isle of Aniteitum, New Hebrides (Macgillivray).

14. Cyclostoma (Aulopoma) grande, Pfr. C. testa umbili-
cata, depressa, solida, confertim distincte striata, sulcis spiralibus
nullulis remotis sculpta, sub epidermide nigro-fusca, sepe
fasciatim detrita, obsolete marmorata; spira brevissima conoidea,
vertice subtili, acuminato, nigricante; anfr. 5 convexis, ultimo
terete, basi laxiore, antice breviter soluto, vix descendente; aper-
tura obliqua, subcirculari; perist. simplex, recto.—Operc. sub-
sexspirato, anfractibus oblique validate plicatis.
Diam. maj. 25, min. 21½, alt. 13 mill.
Hab. Ceylon (Mr. Thwaites).

15. Cyclostoma (Cyclophorus) forbesianum, Pfr. C. testa
umbilicata, subdepressa, solida, liris spiralibus inequalibus sub-
confertis cincta, opaca, albida vel rubella; spira parum elevata,
vertice submicronato; anfr. 5 convexis, ultimo descendentem, terete;
umbilio conico, ¼ diametri superante; apertura parum obliqua,
subcirculari, intus alba vel vinosa; perist. simplex, recto,
superne subdilatato, breviter adnato.—Operc. pallido.
Diam. maj. 23, min. 18, alt. 11 mill.
Hab. Lord Howe’s Island; New Hebrides (Macgillivray).

16. Cyclostoma (Cyclophorus) convexiusculum, Pfr. C.
testa umbilicata, convexiuscula, tenuiuscula, epidermide sordide
fuscescente, confertim membranaceo-plicata, ad suturam squamosa,
induta; spira parum elevata, vertice subtili; anfr. 4½ modice
convexis, ultimo subdepresso, basi rotundato; umbilico aperto,
¼ diametri formante; apertura obliqua, subcirculari; perist.
continuo, breviter adnato, simplex, recto.—Operc. corneo, in-
distincte arctespirato.
Diam. maj. 6, min. 5, alt. 2¾ mill.
Hab. Cape of Good Hope (Macgillivray).

17. Cyclostoma (Leptopoma) barbatum, Pfr. C. testa um-
bilicata, depresso-turbinata, tenui, acute carinata, sub epidermide
arcuato-striata, fulvo et castaneo variegata; spira turbinata, apice
acuta; anfr. 5 convexiusculis, superne liris 3–4 prope carinam
munitis, ultimo ad carinam pilis squamosis barbato, basi con-
veziore, liris 2 distantibus nonnullisque obsoletioribus subangulato;
umbilio mediocri, conico; apertura fere diagonali, subcirculari;
perist. duplex; interno continuo, expansiusculo, ad anfr. penul-
timum subsinuato, externo breviter patente et reflexiusculo, superne subdilatato.
Diam. maj. 13, min. 11, alt. 6½ mill.

Diam. 18, alt. 8½ mill.

γ. Minor, anfr. 5, liris basalibus distinctioribus.
Diam. 11, alt. 6 mill.

Hab. Borneo, Sarawak.

18. Cyclostoma (Cyclostomus?) Anнатоненсесе, Pfr. C. testa perforata, globoso-conica, tenui, carinis pluribus periphericis acutis, lirisque compressis, confertis, vix elevatis munita, parum nitida, fusca; spira acute conica, sursum pallescente; anfr. 6 convexiusculus, ultimo ventroso; apertura vix obliqua, irregulariter ovali; perist. tenui, albidus, marginibus approximatis, dextro brevissime expanso, columnillaribus superne recedente, cum parte inferiore subangulatim juncto, angustissimo.
Diam. maj. 8, min. 6½, alt. 8 mill.

Hab. Isle of Aneiteum or Annaton; New Hebrides (Macgillivray).

19. Cyclostoma (Cyclostomus?) sinuatum, Pfr. C. testa umbilicata, globoso-turbanata, solida, lavigata, vix nitidula, alba; spira turbinata, acutiuscula; anfr. 5½ convexuscis, prope suturam liris 5 filarius cinctis, ultimo rotundato, circa umbilicium angustum, pervium liris paulo confertioribus sculpta; apertura vix obliqua, subcirculari; perist. breviter expanso, marginibus callo subexciso junctis, dextro superne repando, fere sinusoso, columnillaribus non latiore.
Diam. maj. 22, min. 18, alt. 17 mill.

Hab. Madagascar?

20. Diplommatina chordata, Pfr. D. testa sinistrorsa, profunde rimata, subfusciformi, tenui, lavigata, costulis subdistantibus chordaeformibus munita, diaphana, cereo-albida; spira ovato-conica, acuta; anfr. 7 convexuscis, ultimo attenuato, antice ascendentis; apertura vix obliqua, subcirculari; perist. duplice, interno continuo, breviter adnato, ceterum expansiusculo, externo breviter patente.
Long. 4, diam. 2 mill.

β. Minor, paulo confertius chordata.
Hab. New Zealand (Strange); var. β. Lord Howe’s Island (Macgillivray).

Anaulus, Pfr., nov. gen. Operculum tenuissimum, corneum, sub-arcetispirum, eatus concaviusculum. Testa umbilicata, pupiniformis; apertura circularis; peristoma duplex: internum continuum, externum dilatatum, ad insertionem marginis dextri canali aperto perforatum.

21. Anaulus bombycinus, Pfr. A. testa impervie umbilicata, oblonga, tenuiuscula, confertim striata, sericea, rubello-cornea;
No. CCXCI.—Proceedings of the Zoological Society.
spira irregulari, inflata, in conum obtusulum desinente; anfr. 6 convexis, penultimo gibbo, latere aperturali subplanato, ultimo attenuato, ad suturam marginato, antice ascendente; apertura circulari, basi axin subexcedente; perist. interno calloso, adnato, externo late expanso, reflexiusculo, marginibus superne callojunctis. —Operc. luteo-corneo.

Long. 14, diam. 7\frac{1}{3} \text{ mill.} \quad \text{Apert. intus fere 4 mill. diam.}

β. Minor anfr. 5\frac{1}{2}, penultimo magis turgido.

Long. 10, diam. vix 6 mill.

Hab. Borneo, Sarawak. Pl. XXXII. fig. 10.

22. Hydrocena acutilirata, Pfr. H. testa aperte perforata, turbinata, tenui, liris acutis, magis minusue confertis, nonnullis interdum carinæformibus, cincta, cornea; spira conica, acuta; anfr. 5\frac{1}{2} convexiusculis, ultimo basi inflato; apertura obliqua, angulato-subovali; perist. simplice, subrecto, marginibus vallo tenui juncitis, sinistro subangulato.

Long. 10, diam. 6\frac{1}{3} \text{ mill.}

Hab. Lord Howe’s Island; New Hebrides (Macgillivray).

23. Hydrocena (Omphalotropis) vestita, Pfr. H. testa perforata, oblongo-conica, tenui, striata et spiraliter confertis, epidermide fuscula vestita; spira pyramidata, acutiuscula; anfr. 6 planis, ultimo carina acuta infra medium, secunda circa perforationem, nonnullisque minoribus basalibus munito; apertura vix obliqua, subangulato-ovali; perist. simplice, recto, marginibus convergentibus.—Operc. fusco.


Hab. New Zealand.

6. Descriptions of Nine New Species of Helicea, from Mr. Cuming’s Collection. By Dr. L. Pfeiffer.

(Mollusca, Pl. XXXII.)

1. Spiraxis Cumingiana, Pfr. S. testa turrita, solida, sublavigata, nitida, nigra; spira elongata, sursum in conum acutiusculum terminata; anfr. 8, supremis planis, capillaceo-striatis, reliquis prope suturam albo cinctam angulosis, ultimo 2 longitudinis subaequante, superne et infra medium angulado, basi attenuato; columella lamina alba, torta, basin fere attingente, munita; apertura vix obliqua, rhombo-ovali, intus caerulescence; perist. simplice, intus nigro-labiato.

Long. 48, diam. 16 mill.

Hab. Kanai, Sandwich Islands (Dr. Newcomb). Pl. XXXII. fig.1.

2. Bulimus Trailli, Pfr. B. testa imperforata, oblongo-ovata, tenuiuscula, leviter striata, nitida, nigro-castanea; spira convexo-conica, apice obtusa; sutura levi, albo-marginata; anfr. 5 con-
vexiusculis, ultimo spira vix breviore, infra medium obsoletissime angulato; columella fere stricta, subdilatata, plana; apertura obliqua, ovali, antice fusca, intus caerulecente; perist. breviter expanso, margine dextro leviter arcuato.

Long. 36, diam. 22 mill.

Hab. Palawan Passage, near Borneo (Dr. Traill, H.E.I.C.).
Pl. XXXII. fig. 6.

3. Bulimus cinerosus, Pfr. B. testa imperfecta, ovoidea, solida, oblique striatula, fusca, epidermide suturate cinerea, striatim detrita, obducta; spira convexo-conica, apice obtusa; anfr. 5 modice convexi, ultimo spira paulo breviore; columella subplana, leviter introrsum dilatata, alba; apertura obliqua, truncato-ovali, intus albida; perist. subsimplex, breviter expanso.

Long. 36½, diam. 13 mill.

Hab. Palawan Passage, near Borneo (Dr. Traill, H.E.I.C.).
Pl. XXXII. fig. 5.

4. Helix trailli, Pfr. H. testa umbilicata, conica, solida, oblique confertim plicata, castaneo-fulvida; spira conica, apice obtusa; anfr. 5 convexis, ultimo fascia peripherica et area lata basali lutea ornato, antice vix descendente; apertura diagonali, truncato-ovali, intus caeruleo-albida; perist. fusco, expanso et reflexiusculo, marginibus subconniventibus, columellari brevi, albo, late reflexo, umbilicum angustum fere tegente.

Diam. maj. 54, min. 43, alt. 37 mill.

Hab. Palawan Passage, near Borneo (Dr. Traill, H.E.I.C.).
Pl. XXXII. fig. 4.

5. Helix palawanica, Pfr. H. testa umbilicata, globoso-depressa, solida, oblique striata, striis obliquis subgranulata, pallide fulva; spira brevi, convexa; anfr. 4 convexiusculis, ultimo parum deflexo, prope suturam et supra peripheriam nigro-fasciato, infra fasciam periphericam albidam nigricante, circa umbilicum fere obtectum pullido; apertura perobliqua, rotundato-lunari, intus margaritacea, obscure fasciata; perist. incrassato, nigro, expanso et revoluto, margine columellari dilatato, fornicato-reflexo.

Diam. maj. 43, min. 33, alt. 23 mill.

Hab. Palawan Passage, near Borneo (Dr. Traill, H.E.I.C.).
Pl. XXXII. fig. 7.

6. Helix meleagris, Pfr. H. testa umbilicata, convexo-depressa, tenuiuscula, subremote striata, parum nitida, superne nigro-castanea, maculis lutescentibus irregulariter aspersa; spira brevi, conoideo-convexa, obtusula; anfr. 5½ convexiusculis, ultimo antice parum descendente, peripheria rotundata, fascia pullida cincto, basi convexo, pallide corneo; umbilico conico, ½ diametri subæquante; apertura perobliqua, irregulariter lunato-rotundata; perist. subsimplex, marginibus conniventibus, dextro antrorsum
arcuato, vix expansiusculo, basali incrassato, subrefexo, columellarì brevi, parum dilatato.

Diam. maj. 19, min. 16, alt. 8 mill.

_Hab._ Wanderer Bay, Guadalcanar, Salomon’s Islands (Macgillivray). Pl. XXXII. fig. 8.

7. _Helix migratoria_, Pfr. _H. testa umbilicata, conica, tenuiuscula, oblique levissime striatula, nitidula, fulvo-lutea, sàpe linea rufa ad saturam ascendente notata; spira turbinata, apice obtusula; anfr. 5 modice convexis, ultimo antice non descendentc, peripheria obsolete angulato, basi convexo, sub lente spiraliter striato; apertura perobliqua, subrhombo-ovali; perist. albo, marginé dextro breviter expanso, flexuoso, basali calloso, reflexo, columellari dilatato, reflexo, umbilicum angustum semiteitente.

Diam. maj. 18, min. 15, alt. 15 mill.

_Hab._ Wanderer Bay, Guadalcanar, Salomon’s Islands (Macgillivray). Pl. XXXII. fig. 3.

8. _Helix vitiensis_, Pfr. _H. testa perforata, subconoideo-depressa, solida, lavigata, nitida, fusco-carnea; spira conoideo-convexa, vertice subtili; sutura levi, rufo-marginata; anfr. 5½ convexiusculis, sensim accrescentibus, ultimo non descendentc, supra medium obsolete angulato, basi planiore, pallidiore; apertura parum obliqua, lunari, intus margaritacea; perist. recto, marginibus vix convergentibus, columellari oblique descendente, ad perforationem leviter incrassato et reflexo.

Diam. maj. 18, min. 16½, alt. 10 mill.

_Hab._ Ovalau, Feejee Islands (Macgillivray). Pl. XXXII. fig. 9.

9. _Bulimus macgillivrayi_, Pfr. _B. testa umbilicata, fusiformi-oblonga, solidula, leviter striata, nitida, castaneo-fulva; spira elongato-conica, obtusiuscula; sutura levi, fascia albida vel rosea notata; anfr. 5½ parum convexis, ultimo s longitudinalis subaequante, infra saturam turgidulo, basi attenuato; apertura vix obliqua, angusta, acuminato-semiouali, intus margaritacea, callo nodiforme parietali et plica validissima, obliqua columella coarctata; perist. subincrassato, breviter expanso, marginé columellari dilatato, umbilicum angustum semiteitente.

Long. 59, diam. 22 mill.

_Hab._ Wanderer Bay, Guadalcanar, Salomon’s Islands (Macgillivray). Pl. XXXII. fig. 2.
June 26, 1855.

Dr. Gray, F.R.S., in the Chair.

The following papers were read:

1. **Descriptions of some New Species of Birds from Santa Fé di Bogota.** By Philip Lutley Sclater, M.A.

(Aves, Pl. XCIX.–CII.)

1. **Nemosia albigularis.** (Pl. XCIX.)


Long., tota 4'2, alae 2'5, caudae 1'8.

This is a close ally of *Nemosia flavicollis* (Vieill.), from which, however, it may be at once distinguished by its white throat, the yellow colour being confined to a patch on the side of the neck. The spot above the nostrils and orange tint of the yellow are other differences which serve to confirm the validity of this species. There are examples of it in the British Museum and in Mr. Gould's collection and my own.

2. **Pyriglena Ellisiana.** (Pl. C.)

*P. fusco-castanea unicolor:* facie, mento et regione auriculari cum cauda nigrantibus: rostro nigro, mandibula inferiore, nisi ipse tomia basique, alba.

Long., tota 7'0, alae 3'3, caudae 3'1.

The only specimen I have seen of this species was received by Lady Ellis in a collection of birds from Bogota, and presented by her to the British Museum. At the request of Mr. G. R. Gray, I have named it after the donor. The form is nearly that of *P. domicella*, but there is no sign of a white subinterscapular spot, as is general in the species of this genus. The tail-coverts are very thick. The plumage is of a nearly uniform cinnamon-brown, brighter above, and with a greenish gloss on the breast. The front, sides of the head, throat and tail are black.

3. **Anthus bogotensis.** (Pl. CI.)

*A. pennis corporis superi medialiter nigris pallido cervino-brunneo late marginatis: alis intus nigris; primariis stricte, secondariis autem et rectricibus pallido cervino-brunneo late marginatis: rectricibus nigris; una utrinque extima, nisi pognii interioris parte basali, tota pallide alba, brunnescente tincta; caeteris extus et duabus mediis utrinque cervino-brunneo anguste lim-
This is the only bird of the nearly universally distributed family of Pipits I have seen from Bogota, and appears distinct from any species previously noticed. The bill is rather larger, and the feet stronger and thicker than in the ordinary members of the genus. Above, the plumage is of the usual pale brownish fawn-colour, thickly clouded with black, caused by the feathers being broadly margined on each side with the fawn-colour. The sides of the head and under-plumage are uniform, except on the sides of the breast and across the neck, where there are small black triangular spots in the centre of some of the feathers. The under wing-coverts are pure pale buff; the middle of the belly and crissum lighter and nearly whitish.

4. **Otocorys peregrina.** (Pl. CIII.)


*O. supra grisescenti-brunnea, rufo tincta; pennis nigro variegatis:* fronte, facie gulaeque flavis, loris et regione auriculare et vitta transversa verticis cum playa magna superpectorali nigris: abdomine crissoso et tectricibus alarum inferioribus albis, pectoral et lateribus rufescente griseo mixtis: alis nigricantis; primariis albido, secondariis rufescente-griseo, tectricibus majoribus rufo limbatis; tectricibus summis pure rufo-brunneis, penes castaneis: cauda nigricante; rectrice una utrinque extima late, secunda autem versus apicem solum et angustius albo limbata; duabus medias rufescente griseo utrinque late marginitis: tectricibus caudae superioribus basi rufis: rostro nigro, mandibula inferiore basi alba: pedibus intense brunneis.

Long. tota 5'0, alae 3'2, caudae 2'3.

I have had an example of this bird in my possession several years, but have always considered it the same as Wagler's *O. chrysoleaicos*, with which it has been identified by Prince Charles Bonaparte. Having however lately obtained specimens of the Mexican species, I find the Bogota bird presents such differences as to render its specific isolation necessary. It is rather smaller than the former, the tail is shorter, the bill longer and more curved, and the back has more black upon it. But the chief peculiarity to be remarked in my specimen (which is not quite adult) is the pure red-brown colour of the upper wing-coverts, which in the Mexican bird are lighter, paler, and more pinky. There are many examples of this species in the Paris Museum, in the collection recently transmitted from Bogota by M. Lewy, the French consul there. I have no doubt fully mature individuals will exhibit still further differences.

By Dr. L. Pfeiffer.

1. Helix rhea, Pfr. H. testa subobtecte perforata, globoso-depressa, solida, striata, sulcis obliquis irregularibus profunde cicatricosa, epidermide glutinosa, fulva; castaneo striigata subtlucta; spira brevi, conoidea, obtusa; anfr. 5 convexus, infra suturam canaliculatam perturgidis, ultimo obsolete subangulato, apertura perobliqua, truncato-ovali, intus albida, nitida; perist. simplice, obtuso, margine dextro subinflexo. Diam. maj. 69, min. 56, alt. 37 mill.

Hab. Dingle, Province of Ilo Ilo, Island of Panay, in woods under decayed leaves.

2. Helix coffea, Pfr. H. testa perforata, clato-trochiformi, solidula, levisisse striatula, fusca, fascis saturioribus et suturali alba notata; spira convexo-conica, apice nigrigante, acutissima; anfr. 6 modice convexis, ultimo peripheria obsoletissime angulato, basi subplano, fusco; apertura obliqua, truncato-ovali; perist. recto, marginibus subparallelis, columnellae vix incrassato, ad perforationem reflexlusceto. Diam. maj. 30, min. 26, alt. 24 mill.

Hab. Moluccas.

3. Helix lalloensis, Pfr. H. testa imperforata, subdepressoglobosa, tenui, striis confoertis subtilissime decussata, parum nitida, alba, fascis 2 antice nigricantibus, tum pallescentibus ornata; spira parvula, convexa; anfr. 4 rapide accrescentibus, ultimo inflato, antice vix descendente; columnella tenui, compressa, sub-excavata, leviter arcuata; apertura obliqua, lunato-rotundata; perist. tenui, albo, expanso et reflexo, margin dextro subiercuro, columnellae fere appresso. Diam. maj. 29-38, min. 22½-29, alt. 18-25 mill.

Hab. Lallo, Cagayan, Isle of Luzon.

4. Helix militaris, Pfr. H. testa imperforata, globoso-turbinata, tenui, oblique striata et lineis minutis oblique descedentibus sculpta, nigro-castanea; spira turbinata, apice obtusa; anfr. 6½ convexis, ultimo turgido, carinato (carina antice obsoletiore), breviter deflexo; columnella brevi, plica valida dentiformi munita; apertura perobliqua, lunato-rotundata; perist. albo, expanso et reflexo, margine dextro perarcuato, columnellae fere appresso. Diam. maj. 47, min. 39, alt. 36 mill.

Hab. Seychelles.

5. Helix camelus, Pfr. H. testa compresse umbilicata, conoideo-campanulata, solida, striata, sub lente minutissime decussata, alba, castaneo trifasciata; spira veirosa, sursum conoido-attenuata; anfr. 6 modice convexis, ultimo antice vix descendente, basi subgibbosocompresso; apertura diagonal, truncato-ovali;
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columella arcuata, callosa, subtruncata; perist. albo, expanso, marginem columellarem dilatatum, patente.
Diam. maj. 29, min. 25, alt. 26 mill.
Hab. —?

6. **Helix flexuosa**, Pfr. *H. testa umbilicata, depressa, solida, leviter striata, nitida, castanea; spira subplana, medio vix immersa; anfr. 5 celeriter accrescentibus, convexiusculis, superne irregulariter spiraliter striatis, ultimo lato, subdepresso, antice vix descendente, basi circa umbilicum angustum, peruvium non compresso; apertura obliqua, rotundato-lunari, latiore quam alta; perist. late lilacino, expanso, margine basali declivi, flexuoso, reflexo.
Diam. maj. 30, min. 25, alt. 11 mill.
Hab. Borneo.

7. **Helix biciliata**, Pfr. *H. testa perforata, convexo-lenticulari, tenui, pellucida, cornea, oblique plicata, bicornata, carinis pilis longis ciliatis; spira parum elata, vertice subtili; anfr. 4½ scalaribus, ultimo antice non descendente, basi vix convexo; apertura subobliqua, depressa securiformi; perist. simplice, recto, marginibus subparallelis, columellari vix reflexiusculo.
Diam. maj. 7½, min. 6½, alt. 3½ mill.
Hab. Ceylon.

8. **Helix leucostyla**, Pfr. *H. testa imperforata, conoideo-semiglobosa, solida, oblique striata, sub lente minute decussata, castanea; spira convexiusculo-conica, apice obtusa; anfr. 6½ convexiusculis, lento accrescentibus, ultimo non descendente, utrinque convexo, medio carinato; columella stricta, parum obliqua, calloso-incrassata; apertura diagonalis, subtetragono-lunari; perist. simplice, recto.
Diam. maj. 21½, min. 19½, alt. 14 mill.
Hab. Mauritius Island.

9. **Helix Ludersi**, Pfr. *H. testa umbilicata, sublenticulari, tenuissula, oblique striatula, corneo-albida, fascis angustis aequalibus rufis ornata; spira convexa, obtusa; sutura albo-marginata; anfr. 5¾ vix convexiusculis, lento accrescentibus, ultimo non descendente, medio carina acuta alba nuntio, basi convexiusculo, nitido; umbilico conico, ½ diametri subaequante; apertura diagonalis, subtrigono-lunari; perist. simplice, marginibus vix convergentibus, supero recto, acuto, basali subincurrassato.
Diam. maj. 19, min. 17, alt. 7 mill.
Hab. Ovalau, Feejee Islands (Mr. Macgillivray).

10. **Helix confusa**, Pfr. *H. testa umbilicata, conoideo-semiglobosa, tenuissula, confertim striata et irregulariter spiraliter subsulcata, glutinosa, fulvo-lutea, castaneo-radiata; spira breviter conoidea, obtusa; anfr. 4½, ultimo lato, obsoletius striato, supra peripheriam subimpresso, antice non descendente, basi convexo,
laeviore; umbilico perspectivo, intus concolore, striato; apertura fere diagonali, truncato-ovali, intus margaritacea; perist. simplice, recto, margine columnarum superne subdilatato, patente.

Diam. maj. 35, min. 28, alt. 17 mill.

_Hab._ Cape Upstart, Australia.

11. _Helix antorsa_, Pfr. _H. testa umbilicata, subconica, tenui, striata et rugulis antorsum descendentibus decussata, pellucida, corneo-albida; spira conoidea, obtusiuscula; sutura marginata; anfr. 5 convexiusculis, celeriter accrescentibus, ultimo compresse et acute carinato, superne planiusculo, antice cum carina deflexo, basi circa umbilicum angustum inflato; apertura perobliqua, lanceolato-lunari; perist. tenui, marginibus vix convergentibus, superne expanso, ad carinam subatrostrato, basali perarcuato, reflexo, supra umbilicum dilatato.

Diam. maj. 23, min. 19½, alt. 12 mill.

_Hab._ Haman Island.

12. _Helix exaltata_, Pfr. _H. testa perforata, trochiformi, tenuiuscula, striis obliquis et spiralibus minuto decussata, carinata, sericea, albida, supra carinam fusco anguste unifasciata; spira concavo-conica, elata, acutiuscula; anfr. 7 vix convexiusculis, ultimo non descendente, infra carinam acutam modice convego; apertura parum obliqua, angulato-lunari; perist. simplice, recto, margine columnarum superne reflexiusculo.

Diam. maj. 15, min. 13½, alt. 11 mill.

_Hab._ Salomon’s Islands.

13. _Helix vexillaris_, Pfr. _H. testa imperforata, turbinata, tenui, striata et leviter antorsum rugato-malleata, nitidula, alba; spira turbinata, apice grisca, acutiuscula; anfr. 5 convexis, ultimo vix descendente, turgido, subangulato, basi virenti-fulvo, spiraliter striato; columna declivi, subarcuata, plana; apertura diagonali, truncato-elliptica; perist. tenui, marginibus subconvexitibus, dextro expanso et reflexiusculo, superne arcuato, basali reflexo.

Diam. maj. 28, min. 23, alt. 22 mill.

_Hab._ Haman Island.

14. _Helix fringilla_, Pfr. _H. testa imperforata, conoideoglobosa, solida, oblique striata, nitida, sub epidermide lutea albida; spira convexo-conoidea, acutiuscula; anfr. 4½ parum convexis, ultimo antice subito deflexo et valde constricto, media subcarinato, basi convexiore, spiraliter striato, centro excavato; apertura perobliqua, irregulariter subtriangulari lunari; perist. calloso, albo, reflexo, margine supero subflexuosos, basali perarcuato, propem columnam intus subdentato.

Diam. maj. 23, min. 20½, alt. 15 mill.

_Hab._ Monda Island.

15. _Helix motacilla_, Pfr. _H. testa anguste umbilicata, conoideosubglobosa, tenui, striatula striolisque antorsum descendentibus sub-
decussata, fusco-lutea, ad suturam et peripheriam albo fasciata; spira conoidea, obtusula; anfr. $4\frac{1}{2}$ convexis, ultimo inflato, antice non descendentе, medio subcarinato; apertura diagonalis, subtrian-gulari-lunari; perist. roseo-albo, marginibus distantibus, supero flexuoso, expanso, basali reflexo, leviter arcuato, juxta columnel-larem subfornicatim leviter dentato.

Diam. maj. 20, min. 18, alt. $12\frac{1}{2}$ mill.

_Hab._ Eddystone Island.

16. **Helix sachalensis**, Pfr. _H._ testa anguste umbilicata, conoidea, tenui, striata, striolis antrorsum descendentiбus subde-cussata, fulvescenti-albida, fascia alba peripherica, angusta castanea supera eam et nonnullis fuscis ornata; spira conoidea; anfr. $4\frac{1}{2}$ modice convexis, ultimo non descendentе, medio subcarinato; apertura diagonalis, rotundato-lunari; perist. tenui, marginibus subconvexitibus, supero arcuato, expanso, basali reflexo, ad umbilicum dilatato, fornicato.

Diam. maj. $19\frac{1}{2}$, min. $15\frac{1}{2}$, alt. 12 mill.

_Hab._ Sachala Island.

17. **Helix heroica**, Pfr. _H._ testa umbilicata, convexo-depressa, solida, irregulariter albo-plicata, interstitiis corneis; spira parum elevata, convexa, apice obtusa, livida; anfr. $4\frac{1}{2}$ convexiusculis, lente accrescentibus, ultimo antice breviter deflexo, medio sub-angulato, basi subplanulato, antrorsum tumido et tum subconstricto; apertura perobliqua, elliptica; perist. subcontinuo, margine supero tenui, expanso, basali flexuoso, dilatato, reflexo, intus dente mediocri transversali munito.

Diam. maj. $23\frac{1}{2}$, min. 18, alt. 12 mill.

_Hab._ Celebes (Mrs. F. Pfeiffer).

_Note._—_Helix Bridwilli_, Pfr. in Proc. Zool. Soc. 1853, p. 49, and Reeve, Conch. Ic. sp. 1034, pl. 157, must be _Helix Bidwilli_.

18. **Bulimus integer**, Pfr. _B._ testa imperforata, oblonga, solida, oblique irregulariter rugata, spiraliter sulcata (interstitiis confertim arcuato-lineolatis), carnea, strigis et flammulis griseo-fuscis picta; spira elongato-conica, obtusula; sutura crenulata; anfr. $7\frac{1}{2}$ convexiusculis, ultimo spira paulo breviori; columnella griseo-lilacea, terete, subtorta, arcuata in peristoma continuata; apertura fere verticali, truncata, ovali; perist. subincrassato, breviter expanso, marginе columnellari subdilatato, adnato.

Long. 82, diam. 39 mill.

β. Testa minore, sepe subunicolore carneo-grisea, anfr. $6\frac{1}{2}$, columnella magis torta.

Long. 65, diam. 31 mill.

_Hab._ Quito, Ecuador (Mrs. Pfeiffer).

19. **Bulimus plumbeus**, Pfr. _B._ testa imperforata, oblonga, solida, impressionibus obliquis malleata, sub epidermide olivarce rufo-strigata et flammulata; spira convexo-conica, apice nigricante, obtusula; sutura subcrenulata; anfr. 6 vix convexis, ultimo
spira paulo breviore, antice subascendente, basi attenuato; colu-
mella leviter plicato, caruleo-albida; apertura vix obliqua, semi-
ovali, intus nigro-livida, margaritacea; perist. nigricanti-plumbeo,
incassato et breviter reflexo.
Long. 93, diam. 36 mill.
Hab. Venezuela.

20. BULIMUS HAINESI, Pfr. B. testa imperforata, ovato-conica,
solida, oblique leviter striata, castanea, stringis undulosis et laceris
flavidis picta; spira elongata, subconcavo-conica, apice violacea,
acutiuscula; anfr. 6½ convexiusculis, ultimo ½ longitudinis vix
formante, infra medium subangulato; columella parum declivi,
livido-carna; apertura diagonalis, lunato-rotundata; perist. ex-
panso et breviter reflexo, violaceo-fusco.
Long. 52, diam. 27 mill.
Hab. Philippine Islands.

21. BULIMUS EPISCOPALIS, Pfr. B. testa anguste umbilicata,
ovo-conica, tenui, longitudinaliter subrugoso-striata et minute
granulata, interdum transverse sulcatula, olivaceo-fulva, maculis
rufis irregulariter uspersa; spira conica, acutiuscula; anfr. 4½,
superis vix convexis, ultimo ¾ longitudinis subaquante, oblique
descendente, antice arcuatim subascendente, basi vix attenuato;
columella leviter compresso picta; apertura angulato-ovali, intus
lilacea; perist. purpureo, expanso et breviter revoluto, margine
columellari subappresso.
Long. 47-58, diam. 22–27 mill.
Hab. Bogota.

22. BULIMUS COCAPATENSIS, Pfr. B. testa imperforata, ovato-
oblonga, solida, minutissime decussata, sub epidermine virenti-
fulvida violaceo-carna; spira convexo-conica, apice obtusa;
sutura albida, irregulari; anfr. 5½, superis radiatim costatis et
minutissime granulatis, sequentibus peroblique descendentibus,
param convexis, ultimo spiram subaquante, basi rotundato; colu-
mella recedente, leviter arcuata; apertura subverticali, acuminato-
ovali, intus margaritacea; perist. incrassato, breviter expanso,
marginibus callo nitido junctis, columellari dilatato, adnato.
Long. 67, diam. 30 mill.
Hab. Cocapata, Bolivia (T. Bridges).

23. BULIMUS CONFLUENS, Pfr. B. testa late et compresse um-
bilicata, oblongo-acuminata, tenuiuscula, impresso-punctata, albida,
stringis spadiceis angulosis, subfasciatim confluentibus, albo-punc-
tatis picta; spira elongato-conica, acutiuscula; anfr. 6½ con-
 vexiusculis, ultimo spiram subaquante, basi valde compresso;
columella arcuatim procedente, basi nodifera; apertura vix obliqua,
rhombeo-ovali, basi subangulata, intus lilaceo-rubente; perist.
undique late expanso, patente, margine columellari subflexuoso.
Long. 40, diam. 17 mill.
Hab. Marmato, New Granada.
24. **Bulimus convexus**, Pfr. *B. testa anguste umbilicata, oblongo-fusiformi, solidula, striata, nitida, albida, strigis fuscis, albo-lineolatis ornata; spira elongata, acutiuscula; anfr. 7 convexis, ultima spira paulo breviore, juxta umbilicum compressa; columnella arcuata, supra basin nodifera; apertura obliqua, basi recedente, elliptica, basi canaliculata, intus lilaceo-rosea; perist. latiuscule expanso, margine columellari anguste reflexo.*

Long. 38, diam. 14 mill.

**Hab.** New Granada.

25. **Bulimus chameleon**, Pfr. *B. testa perforata, ovato-oblonga, solidula, striatula, nitida, albida, strigis fulvis, castaneis et latis nigricantibus variis ornata; spira convexo-conica, obtusula; anfr. 6 convexiusculis, ultimo spira paulo breviore, basi rotundato; columnella leviter torta, recedente; apertura vix obliqua, truncato-ovali, intus albida; perist. simplice, recta, margine columellari superne dilatato, subangulatim reflexo.*

Long. 27, diam. 11½ mill.

**Hab.** Quito (Mr. Bourcier).

26. **Bulimus abscissus**, Pfr. *B. testa subimperforata, pyramidata, solidula, rugulose-striata, opaca, albida; spira elongato-conica, acutiuscula; anfr. 6½ vix convexiusculis, ultimo spira paulo breviore, basi rectangulari, quasi abscisse; columnella arcuata; apertura param obliqua, rhomboideo-ovali, intus rosea; perist. vix expanso, purpurea, marginibus callo purpureo junctis, columellari reflexo, subadnata.*

Long. 28, diam. 13 mill.

**Hab.** Province of Quito, Ecuador.

27. **Bulimus verrucosus**, Pfr. *B. testa aperte et compresse umbilicata, ovato-conica, solida, plicis subinterruptis et verrucis oblongis sculpta, fusca, pallide variegata; spira conica, acutiuscula; sutura subcanaliculata; anfr. 7½ planiusculis, ultimo longitudinis subaequante, basi rotundato; columnella leviter plicata; apertura subverticali, truncato-ovali, ad columnam subangulata, intus livida; perist. recto, intus fusco-limbato, margine columellari dilatata, patente.*

Long. 23, diam. 11½ mill.

**Hab.** Galapagos Islands.

28. **Achatina atramentaria**, Pfr. (A. regina β, Pfr. Mon.) *A. testa oblongo-ovata, solidula, confertim subruditer striata, nitida, plerumque tegumento calcareo obducta; spira elongata, apice obtusiuscula; anfr. 7 modice convexis, summis carnis, sequentiibus fusco-violaceo flammulatis, ultimo longitundinis subaequante, nigriscens; columnella violacea, callosa, subtorta, basi oblique truncata; apertura obliqua, truncato-ovali, intus margaritacea, violacea; perist. simplice, intus nigro-limbato, marginibus callo fusco-nigro junctis.*

Long. 81, diam. 35 mill.

**Hab.** New Granada.
29. **Achatina (Oleacina) binneyana**, Pfr. *A. testa fusi-formi, tenui, conflentim plicata, parum nitente, carnea, strigis varicosis castaneis irregulariter notata; spira conica, apice acutiss-cula; sutura marginata et eleganter crenulata; anfr. 7½ parum convexis, ultimo spira paulo longiore, basi attenuato; columella leviter arcuata, ad basin apertur?e verticalis, lanceolata late truncata; perist. simplice, tenui.

Hab. 33 mill.

30. **Cylindrella chordata**, Pfr. *C. testa vix rimata, cylindrice-turrita, truncata, tenera, subtilissime striata et costulis chordaeformibus, subdistantiis munita, albida; sutura costis ex-currentibus crenata; anfr. superst. 11–12 vix convexiusculis, ultimo antice soluto, breviter descendente, later dextro angulato, basi acute carinato; carina filiformi, crenata; apertura obliqua, subtetragono-rotunda; perist. albo, continuo, undique breviter expanso.

Hab. St. Croix, West Indies.

31. **Pterocyclos bifrons**, Pfr. *Pt. testa umbilicata, discoidea, solida, superne arcuato-striatula, nitida, purpurascenti-castanea; spira plana, vertice subtili, lucide castaneo; sutura alba; anfr. 6 convexis, ultimo latioire, peripheria obsolete angulata, antice descendent et juxta suturam prominentiam fornicatam formante, basi violaceo; apertura diagonalis, subcirculares; perist. duplicato, incrassato; interno superne sulco triangulares interrupto, externo subpatente, superne producto et in prominentiam anfractus ultimi abeunte.

Hab. Ceylon.

32. **Cyclostoma (Cyclotus) irregulare**, Pfr. *C. testa umbilicata, turbinato-depressa, solida, conflentim striata, fulv?; spira breviter turbinata, acutisscula; sutura profunda; anfr. 5 convexis, ultimo superne turgido, ad suturam late canaliculato, infra medium fascia lata fusco notato, circa umbilicum infundibuliformem, intus valde plicatum subangulososc; apertura obliqua, sub-triangulares, superne angulata; perist. continuo, breviter adnato, recto, margine dextro dilatato, columellari incrassato, leviter arcuato, ad basin canaliculato.

Hab. Ceylon.

33. **Cyclostoma (Cyclotus) bogotense**, Pfr. *C. testa umbilicata, turbinato-depressa, tenuiuscula, malleato-punctata, nitida, fusco-viridi; spira parum elata, apice obtusiuscula, albida; anfr. 4½ convexis, rapide accrescentibus, ultimo terete, peripheria linea albida cingulato, circa umbilicum medioem, conicum pallido; apertura parum obliqua, subcirculares, superne vix angulata; perist.
recto, continuo, breviter adnato, margine dextro perarcuato, sinistro subincrassato, minus arcuato.
Diam. maj. 22, min. 17, alt. 11 mill.
Hab. New Granada.

34. Cyclostoma (Cyclostomus) leve, Pfr. C. testa perforata, globooso-conica, tenui, levi, striatula, nitida, pellucida, rubello-succinea; spira conica, acutiuscula; anfr. 5 convexis, ultimo spiram subaequante; apertura obliqua, irregulariter rotundata; perist. subcontinuo, breviter adnato, margine sinistro medio angulatim dilatato.—Operc. calcareum, nucleo submedianio.
Long. 7, diam. 5 mill.
Hab. Guadalcanar, Salomon’s Islands (Mr. Macgillivray).

35. Cataulus aureus, Pfr. C. testa breviter rimata, oblongo-pyramidali, tenuiuscula, conflertim striata, sericina, lete aurea; spira turrita, apice acutiuscula; sutura submarginata; anfr. 8 convexis, ultimo parum attenuato, basi axin vix excedente; carina umbilicari valida, compressa, antriorum parum dilatata; periomphalo lato, antice costulato; apertura circulari; perist. albo, duplice interno continuo, appresso, basi canali angusto interrupto, externo perincrassato, fornicatim reflexo, basi producto, canali mediocri perforato.
Long. 25, diam. 10 mill.
Hab. Ceylon (Mr. Thwaites).

36. Pupina superba, Pfr. P. testa ovato-conica, tenui, glaberrima, nitidissima, aurantiaco-fusca; spira convexo-conica, acutiuscula; sutura levi, submarginata; anfr. 6 convexisulcis, ultimo latere apertura planulato, antice breviter ascendente, basi axin paululum excedente; apertura subcirculari, appresso, basi canali angusto interrupto, externo perincrassato, fornicatim reflexo, basi producto, canali mediocri perforato.
Long. 15, diam. 12½ mill.
Hab. Sumatra (Mrs. F. Pfeiffer).

37. Helicina egregia, Pfr. H. testa subgloboso-conoidea, tenuiuscula, spiraliter substriata, albida, superne tenia lata fulvida et ad peripheriam fascia castanea ornata; spira parvula, conoidea, acuta; anfr. vix 5 convexisulcis, ultimo magno, peripheria rotundata; columella brevi, in nodum dentiformem abente, callum emittente lutescentem, circumscriptum; apertura obliqua, subtangulari; perist. subincrassato, horizontaliter patente.
Diam. maj. 11½, min. 9, alt. 7½ mill.
Hab. Wanderer Bay, Guadalcanar, Salomon’s Islands (Mr. Macgillivray).

38. Helicina spinifera, Pfr. H. testa conoidea, tenuiuscula, oblique striata et spiraliter subconfertim lirata, flavida vel carnea,
saepe saturatius tessellata et ad suturam tenea articulata ornata; spira conoidea; anfr. 5 vix convexiusculis, ultimo acute carinato, basi convexiore; columella brevi, in spinam subacutam desinente, callum emittente vitreum, circumscriptum; apertura diagonalis, subtrianculari; perist. breviter expanso, margine basali substricto, reflexusculo.

Diam. maj. 12, min. 10\frac{1}{2}, alt. 8 mill.

_Hab._ Wanderer Bay, Guadalcanar, Salomon’s Islands (Mr. Macgillivray).

July 10, 1855.

John Gould, Esq., F.R.S., in the Chair.

Mr. Westwood exhibited several new and remarkable species of beetles belonging to the families Cicindelidae and Carabidae. The species of the former family belonged to the genera Collyris and Tricondyla, peculiar to the islands of the Eastern Ocean, and had been collected by the late Colonel Champion and by Dr. Templeton in Ceylon. The species of Carabidae were remarkable for having the antennae particoloured, several of the joints being white. They were collected in Ceylon by Mr. Thwaites, in India by General Hearsey, in Brazil by Mr. Bates, and formed several new and distinct genera.

The following paper was read:—

**Descriptions of Two New Genera and Several New Species of Mollusca, from the Collection of Hugh Cuming, Esq. By Arthur Adams, F.L.S., &c.**

Genus Clea, H. and A. Adams.

The shell on which this genus is founded resembles a fluviatile _Buccinum_, and is from the river in Sarawak Borneo. The notch at the fore part of the aperture differs from that of _Melanopsis_, and the form and abruptly truncate columella separates it from _Hemisimis_ of Swainson. The only species at present known is that described below, distinct varieties of which have lately been received from Malacca.

Type. _Clea nigricans_, A. Adams.

_Testa_ bucciniformis, ovata, epidermide corneo nigro-fusco induta, spira aperturam æquate, apice decollato; anfractibus convexiusculis transversim striatis; apertura ovato-oblonga, antice valde emarginata; columella abrupte truncata, plica unica, spirali, antica, obliqua instructa; labro simplici margine subreflexo et intus subincrassato.

Shell bucciniform, ovate, covered with a brown-black horny epidermis; spire as long as the aperture, apex decollated, eroded;
whorls rather convex, transversely striated. Aperture oblong-ovate, with a distinct notch in front; columella abruptly truncate, with a single oblique spiral fold anteriorly; outer lip simple, the margin somewhat reflexed and thickened internally.

Genus *Erinna*, H. and A. Adams.

Shell semiglobose, thin, horny, olivaceous, longitudinally finely striated; spire very short, obtuse, apex rather eroded, last whorl ventricose, aperture large semiovate; inner lip posteriorly ascending on the body-whorl; columella straight excavated and with a curved elevated ridge outside the excavation, continued in front into the outer lip, which is thin and simple.


*E. testa olivacea tenui longitudinaliter oblique striata, spira brevis-sima, obtusa, apice erosula, anfractus ultimo ventricoso; apertura semiovata; columella recta excavata, labro tenui."

*Hab.* Heneta River, Kami, Sandwich Islands. (Dr. Newcomb.)

This shell by some would be referred to *Neritina*, by others to *Linnaeus*, and possibly by a few to the genus *Otina*; it appears, however, to be distinct in character from all these.

The nineteen other New Species which I shall proceed to describe are referable to established Genera, and may be characterized as follows:—

1. **Chiton Macgillivrayi**, A. Adams.

*C. testa oblongo-ovali, elevatiuscula nigra areis centralibus fasciis duabus pallidis longitudinaliter picta; valvis obtusis (sub lente) minutissime granulatis, liris concentricis undulatis rugoso-granatis ornatis, valva terminali antice umbonata, umbonibus sublcevibus vix productis; ligamento spinis calcareis nigris obtusiusculis obseo.

*Hab.* Fejee Islands, on the reefs. (J. Macgillivray.)

This is a well-marked and handsome species, rather more than two inches in length; the surface of the valves is finely granulated and ornamented, besides, with subgranulated, wavy, concentric, elevated lines; the central areas have a pale greenish band on each side of the umbos.

2. **Murex dilectus**, A. Adams.

*M. testa ovato-fusiformi trivariocosa, carneola, rufescenti sparsim variegata, spira brevi, acuminata, anfractibus septem, varicibus foliaceo-fimbriatis ac laciniatis, interstititis plicato-nodosis, transversim liratis liris rufo articulatis; apertura ovali, canali vix clauso, valde recurvato, labro margine crenato.

*Hab.* — ? (Mus. Cuming.)
3. **Murex (Pteronotus) speciosus**, A. Adams.

*M. testa ovato-fusiformi albida pallide rufo tinta; spira acuta, anfractibus septem, porcis transversis distantiis instructis, vari-cibus tribus foliatis, plicatis sublaciniatis postice in spina dilatata productis; interstitiiis postice nodatis; apertura ovali integra; canali recto, clauso.

_Hab._ —?

This is a very elegant species of _Murex_, which seems to be somewhat allied to the _M. alabaster_ of Reeve, and is one of that section of the genus with foliated winged varices and a closed canal.


*B. testa ovato-fusiformi sordide alba epidermide fusco tenui induta, spira aperturam aequante, anfractibus 5, erosis longitudinaliter plicatis postice noduloso-angulatis, transversim obscure sulcatis, anfractu ultimo ventricoso postice carina crenata ornato; apertura ovali, labio expanso canali brevi lato aperto; labro tenui, postice sinu obsoletu instructo.

_Hab._ Arctic Seas.

This is an example of _Bela_ of rather larger form than most of the other species. The genus appears to consist of small Muriciform shells, concentrated chiefly in northern regions.

5. **Conus traillii**, A. Adams.

*C. testa parva turbinato-conica, spira elata, apice obtuso, anfractibus convexis, ultimo transversim sulcato, albida fasciis duabus latis cinereo tessellatis et punctis cinerascentibus ornata; anfractu ul- timo postice rotundato; apertura angusta, lineari, labro simplice acuto.

_Hab._ Malacca. (Dr. Traill.)

This is a small and very peculiar species of _Conus_, unlike in appearance to any other example of the genus. The spire is elevated and obtuse, and the whorls are convex; the last whorl is rounded at the shoulder and is transversely grooved throughout, and the shell is ornamented with two broad bands tessellated with ashy.

6. **Conus selectus**, A. Adams.

*C. testa turbinato-pyriformi, spira elata acuminata, anfractibus acute angulatis et fasciis rufis ornatis, anfractu ultimo acutim an-gulato ad peripheriam, antice transversim sulcato et angustato; luteola maculis rufo-fuscis, in lineis transversis dispositis, et fascia albida antica, ornata; apertura angusta antice effusa, labro valde postice inciso.

_Hab._ Malacca. (Dr. Traill.)

7. **Rhizochitlus (Coralliophila) californica**, A. Adams.

*R. testa ovata, alba, rimata spira acuminata, anfractibus convexis, longitudinaliter nodoso-plicatis, transversim liratis, liris irregu-

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laribus; apertura ovali, columella reflexa, subexplanata, canali brevi subrecurvo, labro acuto margine irregulari.

_Hab._ Gulf of California.

8. **Stylifer exaratus**, A. Adams.

_S. testa subulato-turrita alba nitida semipellucida, anfractibus perpendicularibus convexiusculis transversim sulcatis longitudinaliter creber-rime striatis, suturis impressis; apice mucronato; apertura ovata ad basim subeffusa; labro sinuoso, margine incrassato et sub-reflexo._

_Hab._ Parasitic in the skins of Starfishes. Philippine Islands. (Mr. Cuming.)

In this species of Starfish Parasite the whorls of the large turreted wax-like shell are distinctly marked with transverse grooves, and the outer lip is thickened at the edge and a little reflexed.


_S. testa subulato-turrita alba nitida semipellucida, apice mucronato flexuoso, anfractibus perpendicularibus convexiusculis, lineis elevatis transversis cinctis, ultimo ad peripheriam subangulato; apertura obpyriformi, labro tenui sinuoso in medio producto._

_Hab._ West Indies.

Perhaps the nearest approach in form to this _Stylifer_ is _S. corallinus_ of Chemnitz, which was also obtained from the West Indies; but as there is an example in Mr. Cuming’s Collection agreeing almost exactly with the figure in Chemnitz, and yet of a different species, I have named the present one _S. subangulatus_ from the angular character of the last whorl.


_A. testa ovato-oblonga albida epidermide fusco corneo induta, anfractibus sex, convexis, supremis obscure longitudinaliter plicatis, ultimo ventricoso transversim sulcato sulcis subdistantibus suturis impressis; apertura ovali labio tenui expanso, columella arcuata simplice antice subtruncata, labro margine acuto intus simplice._

_Hab._ Melville Island.

This appears to be a well-marked species of the northern form of _Cancellariidae_; the shell is much larger than _Admete viridula_, and the columella is entirely without plaits.

11. **Macrochisma sinensis**, A. Adams.

_M. testa elongato-ovali compressa, antice rotundata et angustiori postice sinuata et latiori, ad extremitates elevatis, lineis elevatis radiantis et concentricis decussatis ornata, alba fasciis cornesis et punctis fuscis radiatis picta; foramine postico lanceolato elongato._

_Hab._ China Seas.

12. **Marginella gemma**, A. Adams.

_M. testa ovato-fusiformi, spira producta, acuminata, alba, fasciis duabus latis transversis, maculis viridescentibus tessellatis et lineis
articulatis picta; apertura angusta, antice dilatata, columella quadriplicata, antice macula rosea ornata, labro marginato, intus crenato, extus transversim viridi-lineato.

Hab. —? (Mus. Cuming.)
A remarkably pretty species, allied to M. festiva.


*M. testa subulato-turrita, rufo-fusca, anfractibus 12 convexiusculis, longitudinaliter plicatis, transversim sulcatis, antice subangulato; apertura subquadrato-ovali, antice vix producta ac reflexa, labro flexuoso, margine subincrassato.

Hab. Teneriffe. (Mr. MacAndrew.) (Mus. Cuming.)
A red-brown *Melania*-like species, with the whorls regularly plicate.


*C. testa ovata alba macula rufescenti dorso ornata, spira acuminata, anfractibus planiusculis postice excavatis, transversim sulcatis longitudinaliter valde plicatis, plicis postice acute angulatis; apertura ovali, columella antice oblique sulcata, labro intus valde livato, extus incrassato.

Hab. China Seas. (Mus. Cuming.)

This species is most nearly allied to *C. indentata*, Sow.

15. **Cancellaria clathrata**, A. Adams.

*C. testa oblongo-ovali anguste umbilicata, albida fasciis duabus palide rufescenti ornata, anfractibus septem postice vix angulatis regulariter clathratis; apertura subquadrata; columella recta tuberculato-granosa, triplicata, plica postica valida, plica media unisulcata, plica antica bisulcata, labro intus valde livato.

Hab. China Seas. (Mus. Cuming.)

This species is most nearly allied to *C. indentata*, Sow.


*C. testa acuminato-ovali imperforata, alba, nitida spira acuta suturis valde impressis, anfractibus septicis planis, longitudinaliter costatis, costis elevatis, compressis distantibus, crenulatis postice alatis, productis, liris tenuibus transversis regulariter sculptis; apertura ovata, columella triplicata.

Hab. Philippines. (Mus. Cuming.)

17. **Cancellaria tenuis**, A. Adams.

*C. testa ovato-ventricosa, tenuicula, sordide carneola, anguste umbilicata, spirae suturis profunde impressis, anfractibus sex planiusculis, longitudinaliter costatis, costis tenuibus crenulatis fusco articulatis, liris transversis regulariter sculptis, postice angulatis, productis, lamellatis; columella triplicata, labro tenui.

Hab. China Seas. (Mus. Cuming.)
Nearly allied to *C. foveolata*. 
18. Cancellaria crenulata, A. Adams.

C. testa acuminato-ovata, imperforata, sordide alba, anfractibus sex planulatis, longitudinaliter plicatis, plicis validis subdistantibus, crenatis, postice angulatis productis, spinosis, transversim liris elevatis sculptis, columella triplicata.

Hab. China Seas. (Mus. Cuming.)

19. Typhis triangularis, A. Adams.

T. testa fusiformi, triangulari, alba, subcancellata, varicibus tribus pinnatis postice tubulatis, interstitiis transversim liratis in medio nodosis; apertura ovali canali mediocri aperto dextrorso subreflexo.

Hab. —— ? (Mus. Cuming.)

This is a species quite distinct from any Typhis hitherto described, and resembles in form the Murex tripterus of Born.

2. On the Geographical distribution of the Mammalia and Birds of the Himalaya.

By B. H. Hodgson, Esq.*

"The Himalayan mountains extend from the great bend of the Indus to the great bend of the Brahmaputra, or from Gilgit to Brahma Kūnd, between which their length is 1800 miles. Their mean breadth is about 90 miles; the maximum about 110, and the minimum 70 miles. The mean breadth of 90 miles may be most conveniently divided into three equal portions, each of which will therefore have 30 miles of extent. These transverse climatic divisions must be, of course, more or less arbitrary, and a microscopic vision would be disposed to increase them considerably beyond three, with reference to geological, to botanical, or to zoological phænomena. But, upon comparing Captain Herbert’s distribution of geological phænomena with my own of zoological, and Dr. Hooker’s of botanical, I am satisfied that three are enough. These regions I have denominated the lower, the middle, and the upper. They extend from the external margin of the Tarai to the ghāt line of the snows. The lower region may be conveniently divided into—I. The sandstone range, with its contained Dhúns or Máris; II. The Bháver or Saul forest; III. The Tarai. The other two regions require no subdivisions. The following appear to be those demarcations by height which most fitly indicate the three regions:—

Name. Elevational limits.
Lower region ...... Level of the plains to 4000 feet above the sea.
Central region...... 4000 to 10,000 feet above the sea.
Upper region ...... 10,000 to 16,000† feet above the sea: highest peak measured is 28,176.


† This is about the average height of the ghāts and of the perpetual snow. It
"To begin with Man, the upper region is the exclusive habit of the Bhôtias, who extend along the whole line of the ghâts, and who, with the name, have retained the lingual and physical characteristics of their tramontane brethren. To the central region are confined—but each in their own province from east to west—the Mishmis, the Bors and Abors, the Akâs, the Daphlas, the Lhôpâs, the Lepchas, the Limbûs, the Kirántis, the Mûrmis, the Néwârs, the Sûnûrs, the Chépângs, the Gûrûngs, the Magars, the Khas or Khasias, the Kûhîls, the Garhwâlis, the Kakkas, the Bambas, the Gakars, the Khatirs, the Awans, and the Janjúhs. To the lower region are as exclusively limited the Köcêh, the Bôdî, the Dhimâl, the Kichak, the Thûrâ, the Deûwâr, the Sallah, and the Bûksar. Of these races, those of the central region are all of transnivean origin, like the first named; but they are much altered in speech and aspect by twelve to fifteen centuries of residence in a cisnivean climate, and by mixture in some few cases (as Khas or Khasia) with southern blood; whilst the races of the lower region are of the aboriginal Indian or Tamulian stock, and nearly unmixed, though some of them have adopted the speech and customs of the Hindus*. The hill Brîhmans, Rajpûts and Moslems, so common to the westward, so rare to the eastward, are more modern immigrants from the plains. It is very deserving of special notice, that the people of the upper region cannot endure the climate of the central one, nor those of the central region the climate of the lower one; so that the distribution even of the human race in the Himálaya affords a remarkable verification of our triple transverse division from a quarter the least likely to afford any such argument. But to proceed to our zoological enumerations. To the upper region exclusively belong, among the Ruminants, the Bisons (*Poëphagus*) and Musks, the Wild Goats (*Ibex, Hemitragus*) and Wild Sheep (*Pseudois, Ovis*); among the Rodents, the Marmots and Pikas (*Lagomys*); among Plantigrades, the Bears proper (*Ursus*). In the middle region, true Bovines (*Bos*) take the place of the Bisons of the upper region; Caprine Antelopes (*Nemorândus, Kemas*) replace its Musks and Wild Goats and Sheep; common Rats, and Mice, and Hares, and Porcupines, and Hedge-hogs, its Marmots and Pikas; and Sun Bears (*Helarctos*) its true Bears; whilst the Deer family, unknown to the upper region, is here represented only† by the anomalous Stilt-horns (*Stylôcerus*). In the lower region, the Ox family is represented by Æbîbos and Bubalins (splendid wild types); the Deer family, here abundant, by Rusas, Stags, Axesis, and Stilt-horns to boot; the Antelopes by Tetracerus, or the four-horned kind; the Rodents, by the Bambû

is also nearly the limit of possible investigation, and of the existence of organic phenomena.

* For these tribes see Journ. As. Soc. Beng. for December 1847, and April and June 1848, and May 1849.

† I am fully aware that Rusas (Sâmber) are found in the western hills, but a careful consideration of the facts in that part of the Himalaya, with due advertisement to the known habits of the group, satisfies me that these Deer have been driven into the western hills by the clearance of the Tarai and Bhâver.
Rats (*Rhizomys*) and Spiny Hares (*Caprolagus*); and the Bear family by the Honey Bears (*Melursus*); add to all which, that to this region are exclusively confined all the large Pachyderms, such as the Elephant and Rhinoceros; and the Monkeys also (*Semnopithecus et Macacus*), though not so exclusively in their case. The Carnivora, again, are represented in the upper region by Ounces, by Foxes of a large sort (*V. montanus*), by the Weasels proper, and by the *Ailurus* or Cat Lories; in the middle region, by the Wild Dogs (*Cuon*), the Marten Weasels, Leopards, Thick-tailed Leopards (*F. macroceloides*, Hodgs.), Wild Cats (*F. Murmensis, Pardochrous Ogilbii*), Libyan Lynxes (*Libycus*), Zibets, Screw-tails (*Paradoxurus*), and Prionodons; and in the lower region by Tigers, Leopards, Hyenas, Wolves, Jackals*, insectivorous Foxes (*Kohri*), Bear-badgers (*Ursitaxus*), Urvas, Mongoose, Helicets or Oriental Gluttons, small Civets (*Viverrula*), hirsute Screw-tails, and sharp-faced Cats (*Celidogaster*). Zibets recur in this region but rarely, and one small species of Mongoose is found in special spots of the central region. The Otters in the upper region are represented by the small golden and brown species (*L. aurobrunnea*); in the central, by *L. monticola* and *indigita*; in the lower, by the large Chinese species *L. Sinensis*. Among the Squirrels, the great thick-tailed and purple species (*S. macrouroides et purpureus*) belong solely to the lower region; the small Lokries (*S. Lokria et Lokroïdes*) to the central, and the Siberian to the upper; whilst Flying Squirrels, a numerous group, are confined to the central region, so far as appears. In the Bat group, the Frugivorous species, or Pteropines, all are limited to the lower region, whilst the Horse-shoes (*Rhinolophinae*) specially affect the central region.

"From the class of Birds we may select as characteristic of the three regions the following:—

"The True Pheasants (*Phasianus*), the Tetraogalli, the Sanguine Pheasants (*Ithaginis*), the Horned and the Crested Pheasants (*Ceriornis, Lophophorus*) of the upper region, are replaced by Fowl Pheasants (*Gallopisis*)† in the mid-region, and by Fowls proper (*Gallus*) in the lower. In like manner, among the Partridges (*Perdicinae*), the Grouse Partridges (*Tetraoperdix*) belong exclusively to the upper region; the Chukors (*Caccabis*) and the Tree Partridges (*Arboricola*) to the central; and the Francolines (*Francolinus*) to the lower, though the black species of this last form are also found in the mid-region. In the Pigeon group, the Blanched Pigeons (*C. leuconota*) belong solely to the upper region; the Vinous Pigeons (*C. Hodgsoni*)

* Jackals have made their way (like crows) to the most populous spots of the central region, but they are not proper to the region, nor Indian Foxes, though some of the latter turned out by me in 1827 in the great valley of Nepal, have multiplied and settled their race there. *Ex his disce alia.*

† The influence of longitude on geographic distribution might be singularly illustrated, did space permit, from numerous Himálayan groups, Galline and others: thus, for example, a black-breasted *Ceriornis* is never seen east of the Káli, nor a red-breasted one west of it. So of the black and white crested *Gallopases*; whilst a black-backed one is never seen west of the Arán, nor a white back east of it.
to the central, and the Green, the Golden, and the Banded (Treron, Chalcophaes, Macropygia), as entirely to the lower; the Trerons alone partially entering the central tract from the lower.

"The splendid Edolian Shrikes (Chibia, Chaptia, Edolius) belong exclusively to the lower region. They are replaced in the central tract by plain Dierurines, and in the upper by plainer Laniants. The Cotton Birds (Campephaga) of the south are replaced by gaudy Ampelines (Cochoa) and Leiothricinians (Leiothrix, Pteruthius, Cutia) in the middle region; but both groups seem excluded from the north. Among the Fly-catchers the gaudy or remarkable species and forms belong wholly or chiefly to the lower region, as Tchitrea, Rhipidura, Cryptolopha, Myagra, Hemicheilon, Chelildorynx; whilst those which approach the Warblers (Nittava, Sipha, Digenea) belong to the mid-region; and the plainer and more European types are alone found in the northern.

"Among the Fissirostres, Goat-suckers and Swallows are pretty generally distributed; but Rollers, Bee-eaters, Eurylaimi, Trogons, and all such gaudy types, belong to the south, with only occasional alpine representatives, as Bucia is of Merops. The Tenuirostral birds belong distinctively to the lower region. Yet they have representatives or summer visitants in all three, even among the Sun-birds. Upon the whole, however, it may be safely said that the Sun-birds (Nectarinia) belong to the south; the Honey-suckers (Meliphagidae) to the centre and south; and the Creepers, Nut-hatches and Wrens*, to the north and centre. The Sylvians or Warblers are too ubiquitarian, or too migratory for our present purpose, even Boreal types being common in the lower in the cold weather. Horn-bills, Barbets, Parroquets (Palavornis, Psittacula) belong to the lower region, though they have a few representatives in the central; none in the upper. Woodpeckers abound in the lower and central regions, but are rare in the upper. True Cuckoos (Cuculus) are as common and numerous in the central region as Walking Cuckoos (Phoenicophaus, Centrops), &c. are in the southern, where also the Golden (Chrysoocoyx) and Dierurine Cuckoos (Pseudornis) have their sole abode, whilst what few of the group belong to the upper region, are all allied to the European type. The Ravens, Pies, Choughs, Nut-crackers and Conostomes of the upper region are replaced in the central region by Tree Pies (Cissa, Dendrocitta), Jays, Rocket-birds (Psilorhinus), Pie Thrushes (Garrulax), Timalias, and Hoopoe Thrushes (Pomatorhinus); and in the lower region, by the common Indian Crows (C. culminatus et splendidens), Grackles†, Stares, Vagabond Pies and Dirt-birds (Malacocercus). Thrushes proper

* I have in this paper followed, without entirely approving, Mr. G. R. Gray's classification of my collections in the printed Catalogue of the British Museum. The geographic distribution is now attempted for the first time. But I will recur to the subject in a separate paper devoted to it.
† When Darjeeling was established there was not a Crow or Pastor to be seen. Now there are a few Crows, but no Pastors. Enormously abundant as both are in the lower region, this sufficiently proves that they are not native to the central tract, though common in the great valley of Nepal.
with Rock Thrushes, Ousels, Myophones, Zootheres, Tesias and Hypsipetes are as abundant in the central and upper region as Bulbuls, Orioles, Pittas, are in the central and lower.

“In the Finch family, the Haw-finches, Bull-finches, Gold-finches, and Cross-bills (Loxia) are as strictly confined to the upper regions as are the corvine Conostomes, Nut-crackers, Choughs and Ravens. The former are replaced in the central region by the Bunting, Wood-finches (Montifringilla), and Siskins; and in the lower region by the Weavers and Mânisas. The Raptorial birds are, in general, too cosmopolitan to subserve the purposes of geographic distribution. Still it may be remarked that the True Eagles belong, quoad breeding at least, to the upper region; the Crested Eagles (Circaëtus), the Neopuses and Hawk Eagles (Spizaëtus) to the central; and the Pernes (Haliaëtus et Pandion) and Haliasturs to the lower. Among the Vultures the distinction is more marked: for the Eagle Vultures (Gypaëtus) belong exclusively to the upper region; the large European Vultures (fulvus et cinereus) to the central; and the Neophrons and the small Indian Vultures (Bengalensis et teuirostris) to the lower. The Himalaya abounds in Falconidae, all the occidental types and species being found there, and many more peculiar and oriental ones; and it deserves special remark, that whereas the former (Imperialis, Chrysaëtos, Lanarius, Peregirus, Palumbarius, Nisus, &c.) affect the upper and central regions, the oriental types (Hypotriorchis, Haliastur, Hierax, Hypitopus, Elanus, Poliornis) are quite confined to the lower region.

“Those perfect cosmopolitans the Waders and Swimmers, migrate regularly in April and October, between the plains of India and Tibet, and, in general, may be said to be wanting in the mountains, though most abundant in the Tarai. The great Herons (nobilis et cinereus) the great Storks (nigra et purpurea) and great Cranes (the Cyrus and Damoiselle) of the Tarai are never seen in the mountains, where the Egrets alone represent the first group. But the soft-billed smaller Waders (Scolopacidae) are sufficiently common in the mountains, in which the Woodcock abounds, breeding in the upper region and frequenting the central, and rarely the lower region, from October till April. Geese, Ducks and Teals swarm in the Tarai, where every occidental type (so to speak, for they are ubiquitous) may be seen from October till April; and many oriental non-migratory types; whereas in the mountains the Mergansers (orientalis) and the Cormorants (sinensis et pygmeus) only are found, and that very scantily, with a few Rails and Gallinules and Sandpipers from the vast host of the Waders.”
3. **On native impressions regarding the Natural History of certain [Indian] Animals.**

By H. Torrens, Esq., B.A., V.P. As. Soc. Bengal*.

The singular impressions current among natives even of the highest rank, as to the habits and nature of certain animals, are not undeserving of record. It is rarely that the credence of the narrators in these things can be elicited, if even they go so far as to mention the existence of the belief; for they dread the ridicule as much as they anticipate the incredulity of a European: consequently these strange stories are but imperfectly known, even to the best informed among us in such legends. I mention one or two, with the circumstances of my acquaintance with them.

While out tiger-shooting with a party of Musulman gentlemen, I was asked, in a confidential way, whether I had ever seen the Phnew: I spell the word with the almost undescrivable nasal aspirate with which it was invariably pronounced to me. With an air of grave and serious interest, which is the best way of inspiring confidence, I replied, that the nature of the thing or being was unknown to me, and I requested information on the subject. On this there was a little hesitation, when, after a time, it was explained, that as I had seen more of Tigers than my companions, they fancied I might have also seen or heard something of the animal that always preceded the Tiger, called Phnew, from the ceaseless iteration of a sound similar to its name. I required further enlightenment as to this creature, when I found it was a "something that preceded the Tiger by six cubits, wherever he went, making the noise 'phnew' without end, looking for things for it." The old tales of "the Lion and his provider" recurred to me at once, and I bethought me of the hospitality of some cat-like sound of Felis Tigris having led, during his nightly search for prey, to the creation of the story. I have done all I could, but in vain, to discover whether there were real grounds for the belief, based on such a habit of the animal. I killed several Tigers in company with my friends afterwards, but though we found no Phnew with any of them, the silent faith of my believers in the marvellous has remained unshaken as to the existence of the mysterious animal. I subsequently learned that there is in Bengal a like belief respecting it among the Hindus, who term the creature Ghóg†.

There are few Englishmen in India who have not perhaps heard some of the strange tales related by the natives regarding Serpents. The most remarkable to me has always been the belief in the Raj Samp, or King-snake, who is represented as belonging to a superior order of Serpent, as exacting homage and obedience from his ophite subjects, and sometimes, as appearing with the semblance of a crown, the type of his authority. I was one day in company with a number

† According to Babu Rajendralal Mittra, the Hindus distinguish the Ghóg as a different animal from the P'new.—Edw. Blyth, Esq.
of native gentlemen, when the conversation turned upon the nature of antidotes in the case of Snake-bites, the belief as to the cure effected by applying to the wound the head of the identical reptile that had inflicted it, the charms powerful to compel the Snake to appear,—as to all which matters I have never been able to obtain, amid many tales, any relator daring enough to declare himself an eye-witness of the marvels he recounted. At last, mention being made of the King-snake, a party present said—"At any rate I can assure you of the existence of him, for it is well known that I have seen," and the story, to the following effect, was then told. The narrator, being at that time, he said, about fourteen years old, had run hastily to the terraced roof of a ground-floor house to recover his kite, when his attention was attracted by a large Goomna (Cobra capello) which, without perceiving him, raised itself with dilated hood in the erect attitude common with those Snakes, and uttered a loud cry. Immediately some ten or twelve Snakes appeared from different quarters, and assembled before their king, when, after a short time, he pounced upon and devoured one of the smaller ones, with which arbitrary assertion of regal power the invocation terminated. Now the narrator of this tale had no interest in attempting to mislead me; he had mentioned what he stated again and again to the majority of persons present for years before I ever saw him, and he is naturally of intelligence, and in no sort the man to tell a useless falsehood. It is, I was then informed, by these sort of assemblages that the King-snake asserts his power, and that his subjects are called to them for the purpose of bringing tribute, in the shape of dainties for the royal palate; should, however, no tributary Frog or Cat, or bird be forthcoming, or should even the offering produced be insufficient, one of the luckless ophids pays in person the penalty of the omission, even as had been witnessed by my informant. I ventured with respect to his story to object, in as delicate a way as I could, to the incident of the cry uttered by the King-snake, but in this I was immediately over-ridden. The cry of the large Goomna was well known in the ruinous city where we were, and in which they abounded, and it was described to me as a strident sound, the attempted imitation of which resembled the acute staccato note of a treble hautboy. I heard this sound myself subsequently during a sleepless night, emitted by a large Snake which killed a Rat in my bed-room: as it was pitch dark, I was unable to rise and destroy the intruder, but the sound was too peculiar not to have been that of the ophid, according as it did with the description given me, and being unlike anything I ever heard before, as also contrasting distinctly and remarkably with the cries of its victim. I have noted down these trivial, but not incurious matters, as an inducement to the record of more valuable facts as to the opinions held by natives upon the habits of animals, whence perhaps some really useful information may be elicited.

Note by Mr. Blyth.

The Snake which I have had invariably pointed out to me as the Raj Samp by natives of Bengal, is Bungarus annularis, which
habitually preys upon other Snakes, and is currently said to be a deadly enemy of the Cobra. I have taken a *Tropidonatus umbratus* about two-thirds the length of its devourer from the stomach of this species. Another ophiophagous species with the Cobra hood is *Hamadryas hannah* of Cantor, or *Maia vettata* of Elliot, a specimen of which, 9 feet long, I obtained in the Midnapore jungle.

Mr. Layard some time ago informed me of a popular notion among the natives of Ceylon respecting a "horn" which is said to grow sometimes, but very rarely, on the forehead of the Jackal; and this horn is regarded by them as a specific of innumerable virtues. Strange to say, the same notion is equally current among the natives of Bengal, who believe that it ensures the prosperity of its possessor, and success in every undertaking.

July 24, 1855.

Professor Tennant, F.G.S., in the Chair.

The following papers were read:—

1. **On the Birds received in Collections from Santa Fé di Bogota. By Philip Lutley Sclater, M.A., F.Z.S.**

(Aves, Pl. CIII. CIV.)

The collections of South American bird skins in the hands of European dealers are mostly imported from Rio and Bahia in Brazil and from Cayenne, occasionally also from Para and the island of Trinidad. About sixteen or seventeen years ago birds were first received in Paris from a French collector resident in Sante Fé di Bogota, the capital of the republic of New Granada, and since that time, the natives having been taught the method of preparing skins, large collections have been constantly imported both into England and France from the same quarter.

The species contained in these collections were, when first brought, for the most part new to science, and were described as such by M.M. De Lafresnaye, Boissonneau, Des Murs and Bourcier in Guérin's 'Revue Zoologique' and 'Magasin de Zoologie' in France, and some also in England by Mr. Fraser, in these Proceedings*. It is to the first-named of these gentlemen however, the Baron de Lafresnaye, of Lafresnaye, near Falaise, that we owe by far the largest part of the knowledge of New Grenadian ornithology we possess, upwards of seventy new species from that country being characterized in the numerous papers he has written upon that subject in the 'Revue Zoologique'.

At the meeting of Italian savants held at Milan in 1844, Prince Charles Lucien Bonaparte read a catalogue of a collection of birds received from Bogota by the Marchese Orazio Antinori, containing  

* See P. Z. S. 1840, pp. 14, 22 and 59.
thirty-eight species*. This, I believe, is the only attempt that has been yet made to throw light upon the peculiar ornithology of that country, otherwise than by describing such species as were unprovided with names.

I have from time to time had the pleasure of bringing before this Society Bogota birds which seemed to have escaped the notice of previous writers on the subject, and have characterized a few others in the 'Annals of Natural History' and the 'Revue et Magasin de Zoologie.' Most of my materials have been derived from a fine series of birds from that locality possessed by the British Museum (which Mr. George Gray's kindness has afforded me every opportunity of investigating), or from the collections received by the Jardin des Plantes at Paris, in examining which I have met with great courtesy from the directors of that establishment. I have always noted down the species I have thus observed, whether new or previously known, from Bogota, and by adding to them the birds described by the several authors before mentioned as coming direct from that country, and others, of which I have specimens in my own collection, have formed a list of 435 species belonging to this peculiar Fauna. I have myself examined in one place or another examples of nearly the whole of these 435 species, and have the greatest confidence that I am not in error in including any of them in my list. Where I rely upon another writer for the locality, I have invariably given a reference to my authority.

This list, though large, is, I must own, very incomplete, nearly the whole being made up of Passeres and Scansores. I know as yet very little of the Accipitres, or the Gallinae, Grallae and Anseres of this fauna, or, indeed, of many individual families of the two first-mentioned orders. Were the catalogue perfect or nearly so, the number contained would be much greater, amounting, I should say, to upwards of 700 at least. My object in promulgating it thus crude is to start a foundation upon which a more perfect work may be established.

Bogota skins are easily recognized by persons who have had any experience in such matters from their peculiar preparation, the wings and tail being squeezed up into the body and the whole skin pressed together in a manner which gives them a very different appearance from birds brought from any other country. I believe that they are collected by the native Indian hunters in the forests of the New Grenadian Andes, and brought in to the capital to be disposed of to the persons who transmit them to Europe. It is stated (and I think Mr. Mark, our Vice-Consul at Bogota, is my authority on this point) that the birds are in no case brought from any very great distance in the surrounding country, perhaps never from farther than a circuit of 100 miles around the city. If this is really the case, or even if they are brought from double or treble that distance, the number of different species occurring within so limited a range would appear truly marvellous. No doubt this may be

* See Atti della sesta Riunione degli Scienziati Italiani tenuta in Milano, p. 404.
partly accounted for by the great variety of the elevations at which they are procured; the species belonging to one elevation in these countries being totally distinct from those of another.

The city of Bogota itself is situated at a height of more than 8900 feet above the sea-level, on a plateau on the western face of the eastern chain of the Andes of New Grenada, and it is not likely therefore that any great number of the birds brought to Europe as Bogota skins are obtained in its immediate neighbourhood. The animals that inhabit those higher ranges are doubtless quite different from those of the regions beneath, and it is probably in the hot tropical valleys of the Upper Magdalena and its affluents that the largest proportion of what are commonly called ‘Bogota’ birds are found.

Nevertheless, as Schomburgk only mentions 420 species of birds in his Zoology of Guiana, Prince Maximilian only 362 as found in South-east Brazil, Tschudi only 460 as occurring in Peru, and Azara 448 species in the fauna of Paraguay, it is somewhat remarkable that from so limited a district a list in many respects so deficient should contain as many as 435 species, and it would seem without doubt to indicate that this region is extraordinarily rich in ornithic life.

The ornithology of this country, taken as a whole, may be pronounced quite distinct from that of Guiana or Brazil. Of course there are some species common to all parts of the South American continent; but looking at the Passeres included in this list, a very large proportion of them are as yet only known to occur in collections from this spot. A good many New Grenadian species, however, are likewise found on the upper branches of the Amazon, in Ecuador, and East Peru, and some are identical with those met with by D’Orbiguy in Bolivia. It is in this direction (as M. de Lafresnaye has pointed out*) that the zoological province to which this part of New Grenada belongs seems rather to extend itself. A few Mexican and Central American forms are likewise present, as might be expected, and among these may be noticed as many as ten† or twelve species that are well-known inhabitants of the United States. Until we are better acquainted with the whole subject, it is hazardous to draw conclusions as to the comparative abundance or absence of particular families or genera in New Grenadian ornithology. It may be safely said, however, that the Tanagers and Humming-birds are nowhere more numerous. Of the former, no less than eighty-six out of a whole of 230 or thereabouts, occur in collections from these parts, and my list, though incomplete, contains the names of forty-nine species of Humming-birds.

† Namely—

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<td>Mniotilla varia</td>
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<td>Rhimamplus austicus</td>
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<td>&quot; striatus</td>
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<td>&quot; blackburniae</td>
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<td>Myiodyoctes canadensis</td>
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Mr. Gould has kindly assisted me by looking through the Trogons, Humming-birds, Toucans, and Odontophores contained in this catalogue.

**VULTURIDÆ.**

1. *Sarcorhamphus papa* (Linn.).
   Mr. Gould has recently examined a specimen of this bird, procured near Bogota. The MM. Verreaux have received it from Santa Martha.

**FALCONIDÆ.**


   In Mr. S. Stevens’ Bogota Collection. Santa Martha (Verreaux).


7. *Ictinia plumbea* (Gm.).
   In the Bremen Museum from Bogota; M. Verreaux’s collection from Santa Martha.

   I have examined a Bogota specimen of this species. The MM. Verreaux have received it from Santa Martha.

   A British Museum specimen from Mr. S. Stevens’ Bogota collection seems to belong to this species.

**STRIGIDÆ.**


11. *Phalœnopsis*?


   A specimen in the Paris Museum so labelled, from Bogota (Rieffer, 1843), appears distinct from, although closely allied to, the preceding. The two names are quoted by Mr. Cassin as synonymous.


15. Syrniu1 hylophilum (Temm.) Pl. Col. 373.

   Specimens of these two last birds from Bogota are included in Mr. Cassin’s catalogue of the Strigidae contained in the Museum of the Philadelphian Academy.

   Caprimulgidae.

17. Steatornis caripensis, Humb.
   One of the localities assigned to this curious bird is under the celebrated natural bridge of Iconozo, near Bogota*.


   Hirundinidae.

   The Paris types of this elegant bird, whence Vieillot and Lesson’s names were derived, are said to be from Trinidad. Lafresnaye’s and others I have seen were from Bogota.

   Momotinae.

22. Momotus brasiliensis, Lath. ?
   The ‘Momotus brasiliensis ex Bogota’ is one of those local varieties (climatischen Abürte, as Dr. Cabanis calls them) which are so puzzling to ornithologists. In general size and dimensions this bird agrees with Cayenne and Para examples, but the bill is decidedly smaller. The under plumage is nearly the same. In the Bogota bird the black is confined to a smaller space in the middle of the vertex, the thalassine blue front extending further backwards, and the occipital blue patch being also rather broader. There is also no such strongly marked chestnut colour on the nape, but a castaneous tinge extends over the upper back. I have not yet examined quite adult Bogota specimens, at least none that I have seen have the spatulation of the medial rectrices complete. Such may perhaps offer more decided differences.

* Humboldt and Bonpland, Voyage, Atlas, p. 12.
   I am much inclined to think that this is the true Prionites martii of Spix (Av. Bras. i. p. 64. pl. 60), which is generally identified with Leadbeater’s M. platyrhynchus—a very different form. Certainly Tschudi’s Prionites martii in the Neufchatel Collection belongs to this species.

**Bucconidae.**

24. Bucco radiatus, Sclater; Pr. Z. S. 1853, p. 122. pl. 50; Syn. of Bucc. p. 11.

25. Bucco macrodactylus (Spix); Av. Bras. i. p. 51. pl. 39. fig. 2; Syn. of Bucc. p. 14.

26. Malacoptila fusca (Gm.); Syn. of Bucc. p. 15.

   I have not yet seen a second example of this species, of which the type is in my own collection.

   In Mr. Gould’s collection from Bogota.


32. Chelidoptera tenebrosa (Pall.); Syn. of Bucc. p. 23.
   I have lately seen several Bogota examples of this bird, which seems to be widely distributed in Cisandean South America. They are smaller, and form in fact a distinct local variety from the Brazilian.

**Alcedinidae.**

   Seems to range far northwards. In Sitgreave’s Report of the expedition to explore the Zuni and Colorado rivers (p. 64) it is mentioned as occurring abundantly on some of the tributaries of the Rio Grande.

34. Ceryle amazona (Gm.).
   I have a female of this species from Bogota.

**Galbulidae.**


36. Galbula ruficauda, Cuv.; Le Vaill. Ois. de Par. pl. 50.

Trogonidæ.

38. Trogon collaris, Vieill.; Gould, Mon. pl. 5.


42. Calurus fulgidus, Gould, Mon. pl. 24.


Cærebidæ.

44. Cæreba cærulea (L.); Vieill. Ois. Dor. pl. 44.

The Bogota skins which I refer to this species may be distinguished from the Cayenne birds by their shorter bill and the black descending farther down the fore neck. Such slight differences are in my opinion insufficient for specific separation. This is perhaps the same as one of the Cærebæ indicated as new in the Museum Heineanum of Dr. Cabanis.


I have examples of this bird from Cayenne, Trinidad, Bogota and East Peru. The Bogota and Peruvian birds have a stronger bluish tinge on the back and belly. Mr. Gould has specimens of a very similar, though possibly distinct species, from Guatemala.

46. Dacnis cayana (L.); Sw. Zool. Ill. pl. 117.

47. Dacnis angelica, De Filippi; Pl. Enl. 669. fig. 2.

The blue is brighter than in Cayenne specimens.


Mr. Gould has lately obtained an example of this elegant species. The type I described, and which was the only one I had then seen, is in the British Museum.


I have not yet seen a second specimen of this very pretty bird, which has received another name from the Vicomte Du Bus—Nemo-No. CCXCIII.—Proceedings of the Zoological Society.
But I maintain my opinion that it is a typical \textit{Dacnis}, though I allow that it is difficult to separate certain species of that genus from the true \textit{Nemosia}.


The British Museum have lately acquired a skin of this bird, which I omitted to include in my list of the genus given at p. 252 of the `Proceedings' for last year. It forms a tenth species of this beautiful group, and must be placed next to \textit{D. speciosa}.


I cannot but regard these three names as applicable to one species. The white-headed bird appears to be the adult, and the blue-headed the young male. I have examples of transition between these two. The \textit{caeruleifrons} seems the female. I have also what I consider a still more immaturesly plumaged bird of this species: \textit{Olivaceum; subtus flavescens; alts caudaque fuscis}.


Trinidad and Bogota specimens of this species agree with each other, and with Dr. Cabanis' description.


60. \textit{Diglossa humeralis} (Fraser), P. Z. S. 1840, p. 22; Cab. M. H. p. 27 (note).

I am rather doubtful whether these two last birds and Cabanis' \textit{intermedia} (M. H. p. 27) are all valid species.


Probably a female. Bogota seems the head-quarters of this peculiar genus. One is found in Central America and South Mexico, one in the highlands of British Guiana, three in Bolivia, and one (accord-
ing to Gay) in Chili. Professor Jameson has transmitted *D. personata* from the neighbourhood of Quito.

**Trochilidae.**

Mr. Gould has been kind enough to revise my list of *Trochilidae*, of which at least fifty species occur in Bogota collections.


70. *Hypuroptila cæruleigaster*, Gould, P. Z. S. 1847, p. 96; Mon. vii. 15.


82. **Cæligena typica**, Bp.; Gould, Mon. viii. 11.


84. **Heliangelus clarissæ** (Long.), R. Z. 1841, p. 306; Mag. de Zool. 1842; Ois. t. 26.

85. **Heliotrypha parzudakii** (Less.), R. Z. 1840, p. 72. *T. exortis*, Fraser, P. Z. S. 1840, p. 18?

86. **Eriocnemis cupreiventris** (Fraser), P. Z. S. 1840, p. 15; Gould, Mon. vi. pl. 9.


89. **Eriocnemis simplex**, Gould, P. Z. S. 1849, p. 96; Mon. iii. pl. 8.


91. **Eriocnemis isaacsoni** (Parz.), R. Z. 1845, p. 95.


102. Thalurania colombica (Bourc.), R. Z. 1843, p. 2.


107. Spathura underwoodi (Less.); Gould, Mon. i. pl. 9.—Spathura spatuligera, Reich.

108. Gouldia popelairei (Dubus); Gould, Mon. vii. pl. 6.


Furnarinæ.


I have seen specimens of this curious bird from Aragua in Venezuela (Mus. Berolin.), from Bogota, and from Panama and Guatimala in the Derby Museum at Liverpool.

Synallaxinæ.


120. Anabates boissoneauii, Lafr. R. Z. 1840, p. 104.—Pseu-


Dendrocolaptin.e.


The Derby Museum specimen of this bird (Mr. Eyton’s type) and one in the British Museum are from Cayenne, but M. de Lafresnaye gives Bogota as the locality of his D. temmincki.


129. Glyphorhynchus cuneatus (Licht.). (Mus. Brit.).

Menurin.e.

130. Triptorhinus orthonyx (Lafr.). Merulaxis orthonyx, Lafr. R. Z. 1843, p. 131; Mag. de Zool. 1844, pl. 93.


133. Scytalopus squamiger (Lafr.), R. Z. 1840, p. 103.

134. Troglodytes ——? ——.

A Bogota skin of a true Troglodytes allied to Swainson’s equinoc-tialis is in my collection, but I am unwilling to describe it as new, until I have made further researches among several rather obscure South American species of this genus, to one of which it may belong.


I have Bogota skins of this bird, which perfectly agree with examples from Santa Martha from the MM. Verreaux's collection. The latter have been recognized by M. de Lafresnaye himself as of this species. I have also the same bird from Trinidad.

138. **Thryothorus rutilus** (Vieill.). — **T. rutilans**, Sw. Orn. Dr. pl. 15.

In the Paris Museum from Bogota (Lewy). Common in collections from Trinidad.


This and the following bird seem more closely allied to Thryothorus than to Limnornis as placed by Lafresnaye.


**Mniotiltinæ.**

143. **Mniotilta varia** (L.); Wilson, Am. Orn. pl. 19. fig. 3.

144. **Helmitheros chrysopterus** (L.); Wilson, Am. Orn. pl. 15. fig. 5.

145. **Rhimamphus festivus** (L.); Wils. Am. Orn. pl.15. fig.6.

146. **Rhimamphus striatus** (Gm.); Wils. Am. Orn. pl.30.fig.3.

147. **Rhimamphus blackburniæ** (Gm.); Wilson, Am. Orn. pl. 23, fig. 3.


In the Paris Museum from M. Lewy's Bogota collection.

*B. olivaceus*: pileo genisque rubris: superciliiis a fronte et in nucham productis albis: subtus flavus, lateribus olivascendibus.

This seems to be the same as the Nicaraguan bird characterized by Prince Bonaparte. It is common in Bogota collections, and is generally confounded with Swainson's *Setophaga rufifrons* from Mexico, which has only the breast yellow, and the belly and crissum brownish-white.


These four last species seem to be very closely allied to one another. I have not yet studied the group sufficiently to be able to give an opinion as to whether they are all truly distinct. The *S. ornata* is common in Bogota collections.


These three last species would be more correctly placed, perhaps, among the *Tyranninae*. They are certainly intermediate in form.

**Motacilline**.


**Turdine**.

168. **Turdus** — ? —
I have two specimens of a Bogota thrush allied to *T. fumigatus*, Licht., which I cannot yet satisfactorily determine.

Prince Bonaparte considers this the same as the northern *T. minor* (Notes Orn. p. 26, note).

170. **Mimus** — ? —
I have a Bogota skin of a bird of this difficult genus, possibly referable to *M. colombianus*, Cab. or *M. melanopterus*, Lawrence.

**Formicariiæ.**


176. **Chamaæza marginata** (Max.)?
A single skin in the British Museum does not seem distinct from Brazilian specimens. It may perhaps be more strictly referable to the Peruvian *C. olivacea*, Tsch., with which I am not acquainted.

177. **Chamaæza mollissima**, Selater, P. Z. S. 1855, p. 89, pl. 96.

Very similar to *Formicarius cayanensis*, Bodd. (Pl. Enl. 821), but with a permanent black front.


A Bogota skin in the British Museum is identical with a type-specimen of Tschudi in my own collection, but I rather doubt whether Tschudi has rightly assigned it to d’Orbigny’s Bolivian species.

Seems more of a *Conopophaga* than a *Grallaria*, as placed by Lafresnaye.


183. **Heterocnemis marginata**, Selater, sp. nov.
*H. supra cinnamomeo-brunnea, pennis strictissime nigro mar-

——
ginatis: alis caudaque intus nigricantibus, externe brunscentibus: subtus alba, gutturis et pectoris totius planis stricte brunneo marginatis, quasi squamatis; his marginibus versus ventrem gradatim latioribus: ventre crissoque cinnamomeo-brunneis, nigro transversim vittatis: rostro nigro, mandibula inferiore basi alba; pedibus pallide brunneis.

Long. tota 3'0: ale 2'2: caudæ 1'2: rostri a fronte 5.

Mr. Strickland’s name Holocnemis, proposed in 1844 for the H. neevia (figured in Cont. to Orn. 1849, pl. 18), has been previously applied to a family of Coleoptera by Schilling, and I therefore propose to change it into Heterocnemis. A second species of the genus seems to be the bird figured in Buffon’s Pl. Enl. 73, fig. 2, under the name of ‘Le Bambla de Cayenne.’—(Turduis bambla, Bodd.—Heterocnemis bambla, mihi.)—The present bird is very closely allied to the latter. In the upper plumage it is very similar, being only of a more cinnamomeous tinge; but it may be distinguished by the want of the white markings on the wings, and the throat, breast and upper belly being white, each feather narrowly margined with brown. In H. bambla these parts are ash-brown, with obsolete transverse markings. Lesson’s Myrmothera troglo-dytes (Desc. d. Mamm. et Ois. p. 301, no. 118) seems the same as H. bambla. This form is indeed very closely connected with some of the Wrens, and hardly to be separated from certain birds that are usually placed in the genus Scytalopus.


This is possibly the same as Dr. Cabanis’ Conopophaga angustirostris, Schomb. Guian. iii. 685.


H. nigro-schistacea; alis caudaque nigricantibus; pileo antico et superciliis latis albis: guttura nigro in ventrem sensim dilutescente: rostro pedibusque nigris.

Long. tota 5'0: ale 2'75: caudae 2'0.

This bird, which is common in collections from Bogota, appears to be the same as Tschudi’s species, though his figure is not a good one.

186. Hypocnemis myiotherina (Spix).—Thamnophilus myiotherinus ?, Spix, pl. 42, fig. 1.—Hypocnemis melanoleema, Sclater, P. Z. S. 1854, p. 254, pl. lxxii. fig. 2.

I have erred in giving a fresh name to this species, which appears to be the same as the bird figured by Spix as the male of his Thamnophilus myiotherinus. A Bogota specimen is in the British Museum.
187. Hypocnemis —— ? ——.

Olivaceo-brunnea, fronte paululum rufescence; plumis narium, loris, capitis lateribus et regione auriculari atri; tectricibus alarum nigris pallido brunneo late terminatis; subtus clare fulvo-brunnea, gutture toto albo; collaribus maculis quibusdam nigris; rostro nigro, mandibula inferiore basi albicante, pedibus nigris.

Long. tota 4·75; alae 2·6: caudae 1·6.

This is a very close ally of my H. melanosticta, P. Z. S. 1854, p. 234. pl. lxxiii., to the female of which it shows much resemblance. But the bill is stronger and thicker, the throat purer white, the abdomen much more deeply coloured, of a buffish brown. There are also no traces of superciliary marks, and the wings are more broadly margined. I think it must be in female plumage; yet the example in the British Museum, and three or four in the Paris collection, sent by M. Lewy from Bogota, seem to be all alike.


189. Myrmeciza longipes (Sw.), Zool. Ill. n. s. pl. 23. (Mus. Brit.)


191. Formicivora axillaris (Vieill.) ? (Mus. Brit.)

192. Formicivora pygmœa (Gm.). Pl. Enl. 831. fig. 2.

Several Bogota skins of what I take to be this species are in the British Museum; but the throat is white, not straw-coloured, as in Buffon’s plate.

193. Formicivora callinota, Sclater, P. Z. S. 1855, p. 89. pl. xcvi.


197. Pyriglena quixensis (Corn.)—P. Z. S. 1854. p. 112.

I have examined a Bogota skin of this bird, which agrees with the one in Mr. Gould’s Quixos collection mentioned by me in the list given in these Proceedings for last year.


201. Thamnophilus multistriatus, Lafr. R. Z. 1844, p. 82.
204. Thamnophilus schistaceus, d'Orb.—Lafr. R. Z. 1844, p. 83.
205. Thamnophilus n^vius (Gm.)?—Sclater, Draft Arr. of Thamn. in Edinb. N. Phil. Journ. 1855, vol. i. p. 243. sp. 28.

Alecturinae.

I agree with M. de Lafresnaye in considering this species distinct from the Brazilian Copurus filicauda, but I believe that the back is only white in younger individuals, excepting the patch on the rump, which is common to the other species. But the New Grenadian bird may be recognized by the comparatively darker colour of the head, and the extreme elongation of the medial rectrices, which in my Bogota skins are two inches longer than the corresponding feathers of the Brazilian.

208. Fluvicola pica (Bodd.)—Pl. Enl. 675. fig. 1; M. bicolor, Gm.
I have also Trinidad and Cayenne specimens of this bird, which is quite distinct from its southern representative—Fluvicola albiventris (Spix) (Av. Bras. ii. p. 21. pl. 30 = F. bicolor, d'Orb. Voy. p. 343)—with which it is generally confounded.

Tyranninæ.

212. Todirostrum cinereum (L.)—Pl. Enl. 585. fig. 3; Todus melanocephalus, Spix, Av. Bras. ii. pl. 9. fig. 2.
This little bird is found in Brazil (Spix and Max.), Guiana (Schomb.), Cayenne (Buff.) and Trinidad, from all which localities I have specimens. The British Museum and Mr. Gould's collection contain examples from Bogota.
213. *Todirostrum gracilipes*, Selater, sp. nov.

*T. supra olivaceum*; *alis caudaque nigricantibus, olivaceo anguste limbatis; pileo fuscescente; loris mentoque albidis; subtus flavum, lateribus olivascantibus; gutture et pectore longitudinaliter nigro striatis; tectricibus subalaribus sulphureis; rostro nigro; pedibus carneis; tarsis gracillimis.

Long. tota 3'8; alae 2'0; caudae 1'7.

This apparently new species is most nearly allied to *T. maculatum* (Desm.) and *T. striaticolle*, Lafr. (in both of which the neck is also striated), but has the whole throat yellow. The bill agrees in form with that of the former bird, but is rather shorter and narrower. The type specimen is in the British Museum.


Closely allied to the preceding according to Lafresnaye, and therefore probably to be placed in the same genus.

224. *Pyrocephalus rubinus* (Bodd.)—Pl. Enl. 675. fig. 1.

This bird is a summer visitant to Texas and New Mexico: see Cassin's B. of California, pl. xviii. p. 127. It also occurs in Trinidad, Cayenne and Brazil, and was found by Azara in Paraguay, and would seem therefore to have a very wide geographical range, if the
specimens from all these localities belong to one species. Mr. Gould's collection contains Bogota examples.


226. **Myiarchus ferox** (Gm.); Pl. Enl. 571. fig. 1. (Mus. Brit. et P. L. S.)

227. **Elænia cayennensis** (L.); Pl. Enl. 569. fig. 2. (Mus. Brit.)

228. **Milvulus tyrannus** (L.); Pl. Enl. 571. fig. 1. (Mus. Brit.)

229. **Hirundinea ferruginea** (Gm.).—**Platyrhynchus hirundinaceus**, Spix, Av. Bras. ii. p. 11. t. 13. fig. 1. (Mus. Brit.)


232. **Tyrannus audax** (Gm.).—Pl. Enl. 453. fig. 2.


234. **Pitangus chrysocephalus**, Tsch., F. P. p. 23. pl. 8. fig. 1; Lafr. R. Z. 1848, p. 5. 
There are examples of this bird in the British Museum from Bogota and Venezuela. M. de Lafresnaye's specimen was from Caraccas.

235. **Tyrannulus elatus** (Lath.)—**Pipra elata**, Spix, Av. Bras. ii. t. 8 a. fig. 2. (Mus. Paris.)


**Tityrine.**

237. **Tityra cayana** (L.)—Pl. Enl. 304. (Mus. Brit.)


239. **Pachyrhamphus niger** (Spix), Av. Bras. ii. pl. 45. fig. 1. (Mus. Brit.)

Muscicapinæ?


Vireoninæ.


244. Vireolanius icterophrys, Bp. Notes Orn. p. 60. (Pl. CIII.)

V. late viridis, pileo cerulescencte; superciliiis protractis et macula suboculari late flavis; subitus flavescenti-viridis, gula et alis subitus flavescenticrioribus; rostro Cyclorhini similis sed productiore.

Long. tota 4:75; alæ 2:75; caudæ 1:75.

Of this beautiful bird I have seen but the one specimen in the Derby Museum at Liverpool, from which my characters are taken. I was intending to name it as apparently new, when I found Prince Bonaparte’s description of Vireolanius icterophrys in a note to his “Notes ornithologiques sur les collections rapportées par M. A. Delattre,” which I think must be intended for the same bird. The Derby Museum specimen is from Bogota. The Prince gives “Rio Negro” as his locality.


Piprinæ.


Bogota’specimens agree pretty well with those from Cayenne, but show rather more cinereous on the sides of the belly. The Brazilian M. gutturosus (Bp. Consp. p. 99) has the whole abdomen and the lower back- and tail-coverts cinereous.


Mr. Cassin’s name had not reached this side of the Atlantic at the time I gave a second to this species. I do not know what is meant by M. bogotensis, which Prince Bonaparte quotes as my (!) name for this bird in his Conspectus Anisodactylorum, p. 3.


Found also in Trinidad, Venezuela and Carthagena; not in Cayenne, as stated in Prince Bonaparte’s Conspectus.

250. **Pipra leucocilla** (L.) Pl. Enl. 34. fig. 2. I have seen Bogota skins of this bird.

251. **Pipra isidori**, Selater, Rev. et Mag. de Zool. 1852, p. 9; Cont. Orn. 1852, p. 132. pl. 100. fig. 1.


255. **Piprites chloris** (Temm.), Pl. Col. 172. fig. 2; Tsch. F. P. p. 144. (Mus. Brit.)

256. **Rupicola peruviana** (Latham). The Peruvian Cock of the Rock seems to be distributed along the Andean range from Bogota through Ecuador and East Peru into Bolivia, where it was found by d’Orbigny in the province of Yungas. I am not sure that it occurs on the western side of the great range. The *Rupicola crocea* has a more limited distribution, being seemingly confined to the mountain system of Guiana. Mr. Wallace came across it at the inner extremity of this range near the borders of the Rio Negro.

257. **Cotinga nattereri** (Boiss.), R. Z. 1840, p. 2.


259. **Ampelion arcuatus** (Lafr.), R. Z. 1843, p. 98.


♀ olivaceus; pileo nigro, in medio aureo guttato; dorsi pennis nigris, olivaceo circumcinctis; alarum tectricibus, secondariis, et caudæ tectricibus ad apicem flavo maculatis; alarum tectricibus majoribus purae olivacei; subitus flavus, pennis nigro et olivaceo circumcinctis; gula flavescentiore; rectricibus nigris, maculis terminalibus flavo-albidis.

♀ supra olivacea, dorso nigro punctato; subitus mari similis, sed gula albo-flavescentiore.

Long. tota 7’0; alæ 4’0.

A pair of this beautiful species (of which Tschudi has described the female) are in the British Museum.

* See his Travels on the Amazon and Rio Negro. A most interesting account of the habits of this remarkable bird is also given by Schomburgk in Naumannia, 1850, pt. 2. p. 34.
262. Pipreola riefferi (Boiss.), R. Z. 1840, p. 3.
263. Pipreola aureipectus (Lafr.), R. Z. 1843, p. 68.

Querulinæ.
265. Querula cruenta (Bodd.)—Pl. Enl. 381. (Mus. Brit.)

Gymnoderinae.
266. Pyroderus grenadensis (Lafr.), R. Z., 1846, p. 277.
The Brazilian and New Grenadian Pyroderi seem to differ little except in size. The bill of the latter species is considerably smaller.

Garrulinæ.
   Dr. Cabanis has separated the Venezuelan variety (?) of this species under the name of cyanocapillus. See Tsch. F. P. p. 233, and Cab. Mus. Hein. p. 223. I do not know whether the Bogota bird is most like the Peruvian or Venezuelan form.

Quiscalinae.

Icterinae.
274. Ostinops cristatus (Gm.)—Pl. Enl. 344. (Mus. P. L. S.)
   I remarked a specimen of this species in a small collection lately received by Mr. S. Stevens from Bogota.
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277. Icterus giraudi, Cassin, Journ. Ac. Philad. i. pl. 17, p. 138. The Bogota birds have the bend of the wing yellow, and are therefore perhaps distinct from the Venezuelan I. melanopterus.— See Bp. Notes Orn. p. 16.


Coccothraustineæ.

279. Hedymeles ludovicianus (Linn.)—Wils. Am. Orn. pl. 17, fig. 2. This well-known North American species extends all through Mexico and Central America into the northern parts of the southern continent. I have seen many Bogota specimens, but they are never in fully adult plumage.


Tanagrineæ.


282. Schistochlamys atra (Gm.)—Pl. Enl. 714, fig. 2. This species seems widely distributed. I have examples from Bogota, Cayenne, and Trinidad. Tschudi noticed it in Eastern Peru (F. P. p. 210), D'Orbigny in the provinces of Moxos and Chiquitos in Bolivia (Voy. p. 291), and Prince Max. of Neuwied in South-east Brazil (Beitr. iii. 504).

283. Chlorornis riefferi (Boiss.), R. Z. 1840, p. 4; Gray's Gen. pl. 89.

284. Saltator magnus (Gm.), Pl. Enl. 205. (Mus. Brit.)


289. Arremon conirostris, Bp. Conspr. p. 488. A rather aberrant species if really belonging to this genus. I have a Bogota skin, which is quite similar to a Santa Martha example from the MM. Verreaux's collection.
291. Buarremon pallidinuchus (Boiss.), R. Z. 1840, p. 68.
I doubt whether this Bogota bird is really identical with the Mexican Arremon ophthalmicus, DuBus, as thought by M. de Lafresnaye (R. Z. 1848, p. 247.)
300. Chlorospingus canigularis (Lafr.), R. Z. 1848, p. 11.
301. Chlorospingus flavicularis, Selater, Rev. et Mag. de Zool. 1852, p. 8 ; Cont. Orn. 1852, p. 131, pl. 98.
This seems to be the bird described, but not named, by Prince Bonaparte, Att. Sc. It. vi. p. 405, sp. 26.
307. Nemosia albigularis, Selater, P. Z. S. 1855, p. 109, pl. xcix...
309. Tachyphonus cristatus (Gm.).—Pl. Enl. 7. fig. 2. (Mus. P. L. S.)
156

A female bird, but of what species?

311. Tachyphonus melaleucus (Sparm.). (Mus. Brit.)


314. Lanio atricapillus (Gm.).—Pl. Enl. 809. fig. 2. (Mus. P. L. S.)

I have specimens of this bird from several different localities, but at present can make out of them only one (though rather variable) species. The Bogota bird seems rather smaller and weaker-billed than a Cayenne specimen.


318. Pyranga aestiva (Linn.).
The Bogota skins I have seen seem referable to the North American species rather than the closely-allied P. saira, Spix (azara, Lafr. et d'Orb.). This bird has already been noticed as far south as Guatimala (P. Z. S. 1837, p. 116).

319. Pyranga rubra (Linn.).
Young birds from Bogota of this species are in the British Museum and my own collection.

Afterwards erroneously united by Mr. Gray to Spermagra erythromela, Sw., which is the same as Pyranga cucullata, DuBus. See Bp. Notes sur les Tang. p. 29.

If the South American bird is the same as the Mexican (as I believe is the case), Lichtenstein's name is the first for this species.

323. **Ramphocelus flammigerus** (Jard.), Ill. Orn. pl. 131 *(dorso postico rubro).*

324. **Ramphocelus chrysonotus** (Lafr.), Rev. et Mag. de Zool. 1853, p. 246 *(dorso postico aurantio).*

325. **Ramphocelus icteronotus**, Bp. R. Z. 1838, p. 8 *(dorso postico flavissimo).*

326. **Tanagra episcopus** (Linn.).
By this I mean the true *episcopus.* See Mr. Strickland's note in Ann. Nat. Hist. xx. p. 332.


328. **Tanagra palmarum**, Max. (Mus. P. L. S.)

329. **Dubusia tæniata** (Boiss.), R. Z. 1840, p. 67.


331. **Dubusia cyanocephala** (Lafr. et d'Orb.)?
I have not yet compared the Bogota skins of this species with Bolivian examples, but they seem to agree with a specimen of the same bird in my collection from Peru, and I think it possible that they may be all referred to one species.


334. **Buthraupis eximia** (Boiss.), R. Z. 1840, p. 66.


339. **Calliste aurulenta** (Lafr.), R. Z. 1843, p. 90.


347. **Calliste inornata**, Gould, sp. nov.*

348. **Calliste ruficervix**, Prevost, Voy. Venus, Ois. pl. 5, fig. 1.


350. **Calliste nigriviridis** (Lafr.), R. Z. 1843, p. 69.


352. **Calliste cyanicollis** (Lafr. et d'Orb.).—d'Orb. Voy. p. 271, pl. 25, fig. 1.

353. **Calliste labradorides**, Boiss. R. Z. 1840, p. 67.—Voy. Venus, Ois. pl. 5, fig. 2.


356. **Diva albiventris** (Sclater), Rev. et Mag. de Zool. 1852, p. 8; Cont. Orn. 1852, p. 131, pl. 100, fig. 12.

357. **Chlorochrysa callipara** (Tsch.), F. P. p. 202.—Cont. Orn. 1851, p. 99, pl. 73, fig. 1.


I have always hesitated to separate this bird from the Brazilian *C. viridis*. As M. DuBus has done so, however, I adopt his name, as I think it possible the species may be really distinct.

* Mr. Gould has kindly furnished me with the following note on this peculiar species, which he considers new:

"Crown of the head, back of the neck, back, throat and flanks very dark grey; rump and upper tail grey tinged with blue; on the shoulders a bright spot of shining blue; wings and tail brownish-black; centre of abdomen and under tail-coverts buffy white; bill and legs black. Total length 4½ inches; bill ½; wing 2½; tail 1½; tarsus ½."

"Remark.—This little unornamented bird belongs to that division of the *Callista* to which the term *Euprepiste* has been applied, and of which *C. mexicana* and *boliviana* are types."

361. Euphonia nigricollis (Vieill.), Cont. Orn. 1851, pl. 75. fig. 1. p. 83.


Mr. Gould’s collection contains specimens of a black-tailed Euphonia from Bogota agreeing nearly with the Amazon bird, except that the yellow extends rather farther back on the head, and the bill is somewhat stouter.


Fringillinae.


To this species I refer, though with some doubt, a Bogota Sycais, of which there are examples in the British Museum and my own collection.

370. Phonipara pusilla (Sw.).—Tiaris pusillus, Sw. Phil. Mag. 1827, p. 438.

Olivea : pileo capitis lateribus gutture imo et pectore toto nigris : superciliis curtis et gula aureis.

This continental species appears to me to be distinct from the Ph. olivacea of the Antilles. The latter has the head olive like the back, and the black on the breast confined to a patch beneath the golden throat, the mid-belly being nearly white.

Phonipara canora * is a third rather rare and quite different species.


* Bp. Consop. p. 494; Brown, Ill. Zool. t. 24. fig. 1. A specimen of this bird is in the Neufchatel collection, and Mr. Strickland once informed me that Mr. Brown’s original type is still extant in the Newcastle Museum.
372. **Volatinia jacarina** (Linn.)?

*Nigro-chalybea: pennis paucis ad campterium albis: tectricibus subalaribus nigris.* (Mus. P. L. S.)


**EMBERIZINÆ.**

374. **Phrygilus geospizopsis** (!) (Bp.).—*Passerculus geospizopsis*, Bp. Notes Orn. p. 21 (♀) — (♂) *cinereus unicolor* — (♀) *fuscorufescens; subtus albidus; fusco toto-striatus.*

I expect it will be found that this bird is an inhabitant of the high mountain ranges. It would appear to be nearly allied to *P. unicolor* (d'Orb. et Lafr.), or certainly to the bird figured under that name by Sir Wm. Jardine (Cont. Orn. 1849, pl. 20). Prince Bonaparte has named and described the female only. There are specimens of both sexes in the British Museum.

375. **Zonotrichia pileata** (Bodd.).—Pl. Enl. 386. fig. 2.—Z. *matutina*, auct.

One of the most universally distributed South American Passeres, being found, I believe, in every part of that continent.

**ALAUDINÆ.**


The only South American bird of the subfamily.

**PYRRHULINÆ.**


379. **Spermophila.**

A species (of which there is a specimen in the British Museum) with a rufous crissum. I have not yet made it out.

380. **Spermophila minuta** (Linn.)—Pl. Enl. 319. fig. 2; Bp. Consp. p. 495. (Mus. Brit.). Also from *S. Martha* (Verreaux).


I have seen Bogota specimens of this bird, which appears rather a true *Spermophila* than a *Phonipara.*

**RAMPHASTIDÆ.**


386. Andigena nigrirostris (Waterh.) P. Z. S. 1839, p. 111; Gould, Mon. ed. 2. pi. 9.


Picide.


390. Dryocopus grayi (Malh.), Pr. Soc. d’H. N. de Moselle, 1849.


The female of this species is figured by d’Orbigny. A Bogota male specimen in my possession differs in having broad red superciliary and mental bands.

393. Chrysoptilus punctigula (Bodd.)—Pl. Enl. 613.—C. cayennensis, Bp. Consp. 122. (Mus. Lugd. ex Bogota.)


I have a pair of birds from Bogota which seem to be referable to this species. Is not P. oleaginus, Wagler, ex Mexico, very closely allied to this?


My Bogota specimens of this bird are rather smaller in dimensions than Venezuelan examples. M. Verreaux has the same bird from Santa Martha. I have not yet had an opportunity of comparing Central American specimens.


Picumninæ.


Capitonidæ.


Psittacidæ.

407. Ara severa (Linu.).

In Mr. S. Steven’s Bogota collection.

408. Conurus wagleri, G. R. Gray, Gen. Birds, pl. 102. (Mus. Paris.)


410. Psittovius tovi (Gm.)? (Mus. P. L. S.)


Similis P. menstruo: an vere distinctus?

**Cuculidae.**


**Columbae.**

422. Leptoptila verreauxi, Bp. Consp. ii. p. 73r
423. Chamæpelia granatina, Bp. Consp. ii. p. 77—nonne Ch. passierince fœm. sive jr?

**Gallinæ.**

   From Bogota and Ecuador.
425. Penelope pipile (Gm.).
   I have examined a specimen of this bird contained in a collection received from Bogota by Mr. S. Stevens.

**Grallæ.**

429. Vanellus cayennensis (Gm.), Pl. Enl. 836. (Mus. P. L. S.)
430. Tigrisoma tigrinum (Gm.).
   In Mr. S. Stevens' Bogota collection.
431. Totanus macropterus (Spix)? Av. Bras. ii. p. 76. pl. 92. (Mus. P. L. S.)
432. Glottis melanoleuca (Gm.).—T. vociferus, Wils. Am. Orn. t. 58. fig. 5. (Mus. P. L. S.)
Anseres.

Is this bird distinct from M. armata?

434. Rhynchaspis clypeata (Linn.).
Mr. Gould informs me that he has recently examined specimens of this bird killed near Bogota. Its occurrence as far south as Nicaragua has already been noticed by Prince Bonaparte. (Notes Orn. p. 94.)

435. Querquedula cyanoptera (Vieill.).
This duck seems to extend from the most southern portions of the South American continent into Texas and as far north as Louisiana: see Cassin's Illustrations, pt. 3. pl. 15. I have a female from Bogota, and the MM. Verreaux have received examples of the same bird from Santa Martha.

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2. On some New Species of Birds collected by Mr. M'Gillivray. By John Gould, F.R.S. etc.

In exhibiting a portion of the first collection of birds which has been sent to this country by Mr. John M'Gillivray, the naturalist attached to H. M. surveying ship 'Herald,' Captain Denham, I have to remark, that it comprises several species of especial interest, particularly some obtained on the Isle of Pines, and on Lord Howe's Island. It also comprises a new form among the Turdidæ or Thrushes, from that isolated spot the island of Tristan d'Acunha, which presents a union of the characters of the genera Turdus, Chamaeaæ and Oreocincla. This new bird I propose to characterize under the generic and specific appellations of Nesociächla eremita. Among the birds from Lord Howe's Island is a singular species of Merula or Blackbird, nearly allied in form to, but very different in colour from, the Merula nestor of Norfolk Island; to this species the specific name of vinitincta is assigned. From the same island are two distinct species of Zosterops, entirely new to science. They differ from any other species of the genus which has come under my notice, one of them being a very large bird for a Zosterops, and the other a much smaller species, being nearly allied to, but distinct from, the Australian Zosterops dorsalis: to these
two species I give the names of *Z. strenus* and *Z. tephropleurus*. A beautiful Parrakeet from Cape York, nearly allied to *Platycercus palliceps*, I propose to name *Platycercus cyanogenys*. Among the birds from the Isle of Pines is a very beautiful Pigeon, appertaining to the genus *Ptilinopus*. This bird, with several others of even greater interest, I propose to make the subjects of a second paper.

**Genus Nesocichla.**

Bill strong, more powerful than in the genus *Turdus*; gonys nearly straight, with a small notch near the tip in the upper mandible; culmen gradually descending from the base; nostrils seated in an oval depression at the base of the upper mandible; wings short, somewhat concave; first primary very small; the third, fourth and fifth equal and the longest; tail rather shorter than in *Turdus*, and the feathers rather pointed; tarsi very strong, toes strong and much lengthened, particularly the hinder one; front of the tarsi scutellated; under part entire.

This form differs from all others in the great family of the Thrushes, and appears to partake of the characters of the genera *Turdus, Chamaaza*, and *Oreocincla*.

**Nesocichla eremita.**

Head and all the upper surface, wings and tail dark sandy-brown, with a darker shade in the centre of each feather, but the primaries have paler edges, and the greater coverts and secondaries are tipped with sandy buff; lores and cheeks rufous; feathers of the under surface deep buff at the base, with a lengthened pear-shaped mark of brown down the apex of each feather, these marks being so large and thickly placed as to give the whole a mottley appearance; on the throat these marks somewhat resemble striae; thighs buff; bill black; tarsi reddish-brown, toes darker.

Total length, 8\frac{1}{2} inches; bill, 1\frac{1}{4}; wing, 3\frac{3}{4}; tail, 3; tarsi, 1\frac{1}{4}.

*Hab.* The island of Tristan d'Acunha.

*Remark.*—This bird is about the size of the common Song-thrush, *Turdus musicus*, and similar to it in appearance; on examination, however, it will be found to differ very considerably in structure.

**Merula vinitincta.**

The male has the head and nape blackish-brown, upper surface and wing-coverts reddish-brown; wings brown margined with olivaceous; tail brown; throat dark bluish grey; under surface vinaceous red; bill bright gamboge-yellow; eye-lash yellow; tarsi and toes yellow.

Total length, 8 inches; bill, 1; wing, 4\frac{1}{2}; tail, 3\frac{3}{4}; tarsi, 1\frac{1}{4}.

The female is very similar, but is of a somewhat paler tint, and has only a trace of the black hood of the male.

*Hab.* Lord Howe's Island.

*Remark.* Of the same form, and somewhat allied to the *Merula nestor* of the Norfolk Island.
ZOSTEROPS TEPHROPLEURUS.

Head and upper surface bright olive-green, with a wash of grey across the shoulders; wings and tail slaty brown, margined with olive-green; throat dull yellow; around the eyes a circle of white feathers, below which is a mark of black; under surface pale vinaceous brown, becoming gradually paler on the lower part of the abdomen, and passing into the pale yellow of the under tail-coverts.

Total length, 4\(\frac{3}{4}\) inches; bill, \(\frac{5}{8}\); wing, 2\(\frac{8}{13}\); tail, 2\(\frac{1}{4}\); tarsi \(\frac{3}{4}\).

_Hab._ Lord Howe's Island.

_Remark._ This species is allied to _Z. dorsalis_, but is of a somewhat larger size, and is less richly coloured on the flanks.

ZOSTEROPS STRENUUS.

Head and upper surface bright olive-green, with a wash of dark grey across the shoulders; wings and tail slaty-brown, margined with greenish olive; eyes surrounded by the usual ring of white feathers, beneath which is a narrow line of black; chin and throat yellow; flanks pale vinaceous; centre of the abdomen nearly white; under tail coverts pale yellow; bill and feet bluish black.

Total length, 5\(\frac{3}{4}\) inches; bill, 1; wing, 2\(\frac{3}{4}\); tail, 2\(\frac{1}{4}\); tarsi, \(\frac{4}{7}\).

_Hab._ Lord Howe's Island.

This is by far the largest species of the genus yet discovered.

PLATYCERCUS CYANOGENYS.

Crown of the head pale sulphur-yellow; cheeks caerulean blue; feathers of the nape, back and scapularies black, broadly margined with sulphur-yellow, stained with green on the lower part of the back; rump and upper tail coverts greenish yellow, with an extremely narrow fringe of black at the tip of the feathers; shoulder and greater wing-coverts deep blue; lesser coverts black, bordered with deep blue; primaries and secondaries blackish-brown, the basal half of their external webs deep blue, the apical half pale blue; tertaries black, broadly margined with greenish yellow; breast pale greenish yellow, abdomen light greenish blue; all the feathers of the under surface slightly fringed with black; under tail coverts scarlet, narrowly margined with yellow; two middle tail-feathers greenish blue; the next on each side blue, slightly tipped with pale blue; the remainder blackish brown at the base of their internal webs, and deep blue externally; their apical portions being beautiful pale blue.

Total length, 13 inches; wing, 6\(\frac{1}{4}\); tail, 7; tarsi, \(\frac{3}{4}\).

_Hab._ Cape York, north-east coast of Australia.

_Remark._ This species offers a very close alliance to _Platycercus palliceps_, but differs in having no trace of scarlet on the forehead, in the green tinge of the borderings of the feathers of the back, in the greenish yellow of the breast, and in having the cheeks blue instead of light yellow.
Par G. P. Deshayes.

Lorsque Turton institua le genre Galeomma une seule espèce était connue, et c'est d'après elle que les caractères génériques furent établis: une seconde espèce, décrite par Lamarck sous le nom de Psammobia aurantia, dut être introduite dans le genre, lorsque nous en eumes reconnue les véritables caractères. Peut-être est-ce aussi à côté d'elle que viendra se ranger le Psammobia vitrea de M. Quoy; il serait possible cependant que cette espèce appartient à notre genre Scintilla. Quant à l'espèce de M. Philippi, elle est également incertaine pour nous de sorte que le genre était borné à deux espèces certaines et à deux espèces incertaines. On pouvait supposer d'après cela que le genre Galeomma n'était point destiné à s'enrichir beaucoup; aussi avons nous été bien surpris en examinant la magnifique collection de M. Cuming, d'y rencontrer un grand nombre de Galeomma nouveaux. De cet examen résulte que le genre renferme actuellement quatorze espèces, et qu'il devient nécessaire d'apporter quelques modifications dans l'énoncé des caractères génériques.

En effet la première espèce connue, le Galeomma Turtoni, Sow., a une charnière simple et sans dents, tandis que la plus grande partie des espèces nouvelles ont cette partie accompagnée d'une charnière articulée très semblable à celle de notre genre Scintilla; un peu différente cependant, car ici les dents sont égales de chaque côté de la charnière et sur chaque valve; par leur saillie elles contribuent à augmenter la profondeur de la fossette du ligament, sur le bord de laquelle elles s'élèvent. Sous le rapport de la charnière, le genre Galeomma pourrait se partager en deux sections; dans l'une les espèces à charnière dentée seraient rangées, dans l'autre les espèces édentules.

L'un des caractères les plus remarquables des Galeomma consiste dans cet énorme baillement du bord inférieure de la coquille. Que l'on suppose une coquille ordinairement close coupée en deux d'avant en arrière, et par cette ablation de la moitié inférieure elle offrira un baillement comparable, à celui qui est naturel dans le Galeomma. Cette particularitéannonce chez l'animal qui construit une coquille si singulière, une organisation toute spéciale, et c'est en effet ce que l'observation a démontré. Dans la série des espèces nouvelles de la collection de M. Cuming ce caractère n'a pas montré une fixité absolue; une seule s'est rencontrée avec tous les caractères du Galeomma Turtoni, les autres ont le baillement en proportion plus étroit, car lorsque l'on regarde la coquille du côté du baillement, on voit que l'ouverture est plus étroite que la convexité ventrale; dans quelques espèces l'ouverture devient plus étroite encore et plus courte que les valves, et de cette manière s'établit un passage insensible entre les genres Scintilla et Galeomma. Aussi on doit se demander s'il y a réellement une interruption entre les deux genres, et quel sera le caractère qui devra dominer. Par la charnière les deux genres se touchent, ils se confondent aussi par le baillement des valves que l'on voit grandir de la manière la plus insensible.
Le premier Galeomma connu a offert à la surface extérieure, un système d’ornementation particulier que nous avions supposé devoir persister dans les autres espèces ; mais ce moyen de limiter le genre nous échappe à son tour. Si le plus grand nombre des espèces offrent des caractères analogues, il en est d’autres qui étant baillantes, sont cependant lisses et brillantes comme les Scintilla. Ces dernières espèces appartiennent-elles au genre Scintilla ? alors le caractère si remarquable du baillage des valves perdirait presque toute sa valeur pour les Galeomma. Si au contraire on maintient dans le genre toutes les espèces baillantes, en voici quelques unes qui, à part ce caractère, sont de véritables Scintilla. Il est difficile, comme on le voit, de se décider entre ces deux manières d’envisager la question. Cependant nous admettons dans le genre Galeomma toutes les coquilles baillantes inférieurement, et nous proposons de les partager en trois sections de la manière suivante :

A. Espèces à charnière articulée.

I. Espèces lisses et brillantes à ouverture médiocre :

1. Galeomma ambiguа.
2. ——_ splendida.
3. ——_ polita.
4. ——_ Layardi.

II. Espèces striées à ouverture plus grandes :

5. ——_ indecorа.
6. ——_ argentеа.
7. ——_ angуста.
8. ——_ paucistriata.
9. ——_ formosa.
10. ——_ chloroleуca.
11. ——_ inflata.

B. Espèces à charnière simple :

12. ——_ Macrochisma.
13. ——_ Turtoni.

Je ne mentionne ici que les espèces qui me sont particulièrement connues, et sur lesquelles j’ai pu faire une étude attentive.

1. Galeomma ambigua, Desh. G. testa transversа, ovato-oblongа, turgidula, æquilateralі, pallide albo griseо flavidula, intus opаca, albіcante, nitіda, transversim substriata, minutissime albo puncticulata, puncticulis depressis irregulariter sparsi ad marginem inferiorem evanidis; latere antico paulo anguste; margine superiore angusto, recto, inferiоre recto, parallelo; margine inferiоre hiante, hiatu lanceolato, angusto; carдine sinistro inæqualiter bidentato, dentibus parallelois; dextro bidentato, dentibus minutis subaequibus divaricatis; dente posticali brevissimo, truncato, subquadranulari.

Hab. Insula Ticaonica Philippinarum (Cuming); portus Essingtоnensis (Jukes).
2. **Galeomma splendida**, Desh. *G. testa ovato-transversa, angusta, depressa, subæquilaterali, albo-lactea, pellucida, tenuissima, fragili, nitente ad apices vitrea, transversim irregulariter striata et zonulis opacioribus notata; latere antico paulo breviori; umbonibus minutissimis, obtusi, vix prominulis; margine superiore recto, inferiore hiante parallelo; hiat u elongato, angusto utrinque acuminato; cardine angusto, dentibus duobus minutissimis, inæqualibus in valvula sinistra; dente posticali subquadrangulari, brevi, obsolet; ligamento minutissimo.

*Hab.* Insula Burias Philippinarum.

Espèce appartenant aux *Galeomma* par le baillement des valves, mais conservant la charnière des *Scintilla*.

3. **Galeomma polita**, Desh. *G. testa ovato-transversa, depressa, subæquilaterali, tenuissima, fragili, albo-pellucida, polita, nitida, transversim substriata; latere antico paulo breviori cum postico æqualiter obtuso; margine superiore recto inferiore paululum arcuato, parallelo, hiat u inferiore angusto; cardine bis dentato in valvula sinistra; dentibus minutissimis subæqualibus, dente posticali obsolet; ligamento minutissimo.

*Hab.* Insula Samar Philippinarum.

4. **Galeomma Layardi**, Desh. *G. testa elongato-transversa, ovata, æquilaterali, alba, translucida, zonulis angustis translucidioribus interrupta, punctulis numerosissimis confusis notata; latere antico paulo angustiore; umbonibus minimis, obtusi, brevibus non prominentibus; margine superiore recto, inferiore æqualiter recto parallelo, hiat u magno in medio lato, fere totam longitudinem marginis inferioris occupante; cardine utroque latere unidentato; dentibus validis obtusi; dente posticali lato.

*Hab.* Insula Ceylonica (Layard).

5. **Galeomma indecora**, Desh. *G. testa elongato-transversa, angusta, extrematibus obtusa, æquilaterali, albo pallide flavida, convexiuscula, inferne late hiante, obsoletissima, longitudinaliter striata; striis distantibus prominulis, angustissimis; umbonibus minimis, obtusi, brevibus, vix prominulis; margine superiore recto, inferiore parallelo; latere antico paulo angustiore et attenuato; cardine angusto utroque latere unidentato; dentibus minutis subæqualibus, obtusi; ligamenti fossula brevissima, angustissima.

*Hab.* Insula Masbate dicta.

6. **Galeomma argentea**, Desh. *G. testa ovato-transversa, angusta, compressiuscula, subæquilaterali, tenui, pellucida, intus nitidissima, albo-argentea margaritacea, extus alba, argutissime striata, striis numerosis, angustis, prominulis, superioribus divericatis ad marginem superiorem ascendentibus; margine su-

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periore recto, inferiore convexiusculo; latere antico paulo bre-viore et angustiore; cardine angusto utroque latere unidentato, dentibus minimis subaequalibus; ligamento minuitissimo, convexo. Hab. Insula Boholensis Philippinarum.

7. Galeomma angusta, Desh. G. testa oblongo-transversa, an-gusta, turgidula, æquilaterali, albo squalide flavidula, æqualiter extremitatis obtusa, longitudinaliter striata; striis tenuibus, æqualibus, continuis, minuitissime granulosis, superioribus divaricatis oblique ascendentiibus; margine superiore recto, inferiore æqualiter recto, parallelo; hiatu inferiori lanceolato totam longitudinem testae occupante; cardine minimo, utroque latere unidentato; dente posticali minuitissimo. Hab. Insula Boholensis Philippinarum.


9. Galeomma formosa, Desh. G. testa oblonga, ovato-transversa, tumidula, inæquilaterali, intus extusque aurantia, longitudinaliter et tenuissime striata; striis superne evanidis, inferne dichotomis, distantibus, prominulis, capillaceis, superioribus divaricatis, numerosioribus, ascendenti-bus; latere antico paulo angustiore, umbonibus minimis, acutis, oppositis, vix prominentibus; margine superiore atque inferiore rectis, parallelis; margine inferiori hiatu medio aperto; cardine minuitissimo, antice bidentato, dentibus obtusis obsoletis; dente postico oblongo, brevi. Hab. Australia septentrionalis (Jukes).

10. Galeomma chloroleuca, Desh. G. testa elongato-transversa, ovato-angusta, tumida, æqualiter, chlorotina, tenui, nitente, argutissime longitudinaliter striata; striis prominulis, angustissimis, capillaceis irregulariter divisis et anastomosis conjunctis, superioribus numerosioribus, divaricatis, oblique ascendenti-bus; margine inferiore recto, superiore parallelo; margine inferiori in senioribus concaviusculo; cardine minimo, utroque latere unidentato, dentibus æqualibus, obtusis. Hab. Insula Samar Philippinarum.

11. Galeomma inflata, Desh. G. testa ovato-transversa, an-gusta, turgida, subæquilaterali, intus extusque pallide flavida, tenui, opaca, utroque extremitate æqualiter obtusa, subleavigata,
extremitatibus obsolete divaricatim striata, impresso-puncticulata; latere antico paulo longiore et angustiore; margine superiore recto, inferiore excavato, late aperto, valide hiante; cardine utroque latere unidentato; dentibus subaequalibus obtusis minutissimis; ligamento exiguo.

Hab. Insula Masbate dicta.

12. Galeomma macrochisma, Desh. G. testa ovato-transversa, angusta, inflata, subaequilaterali, pallide flava, striis numerosis dichotomis, prominentibus longitudinalibus et transversalibus minutis regulariter minutissime decussata; striis superioribus utroque latere divaricatis et ascendentibus; latere postico paulo longiore, attenuato; umbonibus minimis obtusis oppositis; margine superiore recto, inferiore parallelo; hiatus inferiorum maximo totali basim testae occupante; cardine edentulo; ligamento brevi, minimo.

Hab. Insula Masbate dicta.


Genus Scintilla, Desh.

Animal ignotum.

Testa ovato-transversa, utroque latere obtusa, aliquantisper paulo hians, tumida, tenuis, nitidissime scintillans, epidermide desituta; margine superiori sapius recto, inferiori parallelo; cardo angustus, brevis, munquam in medio emarginatus; in valvula dextra dens cardinalis unicus, porrectus, uncinatus, in sinistra dentes duo inequalles approximati divaricati: internus major, dens lateralis in latere postico, cardine approximatus, brevis, conicus vel subquadangularis, in altera valvula in fossula dentis bifidi receptus; ligamentum internum, breve, latum, tenue, in sulco angusto obliquo utriusque valvulae affixa; impressio pallii integra.

Le genre nouveau que nous proposons sous le nom de Scintilla mérite d’attirer un moment l’attention des Conchyliologues. Peu connu dans les collections nous l’avons trouvé d’une extraordinaire richesse dans celle de M. Cuming comme le témoignent les 37 espèces dont nous donnons ici la description. Une seule peut-être a été connue de M. Quoy, et décrite par lui dans le voyage de l’Astrolabe sous le nom de Psammobia vitrea, nous conservons au sujet de cette espèce des doutes légitimes parce que le savant naturaliste la caractérise par deux dents cardinales et un ligament extérieur, tandis que dans notre nouveau genre cet organe est toujours intérieur. Le doute au sujet de l’espèce de M. Quoy est d’autant plus regrettable que ce naturaliste donne la figure et la description de l’animal lequel se rapproche de celui des Galeomma et s’éloigne considérablement de celui des véritables Psammobies. Quoique
nous eussions le soupçon que l'espèce de M. Quoy appartient à notre nouveau genre, dans l'appréhension de commettre une erreur, nous n'osons nous servir des précieux documents de ce naturaliste pour compléter les caractères du genre par ceux de l'animal.

Les coquilles du genre Scintilla ont une apparence particulière qui les distingue assez facilement de tous les autres genres connus ; elles ont de très grands rapports d’un côté, avec les Erycines telles que les a reconstituées M. Recluz, et d’un autre avec les Galeomma; elles sont réellement intermédiaires entre ces deux groupes et les rattachent à la même famille. Toutes ces coquilles sont ovales transverses, oblongues, presque symétriques tant elles sont équiliérales ; les Erycines au contraire sont pour le plus grand nombre oblongues ou ovalaires, mais inéquilérales et obliques. La surface extérieure dans les Scintilla est dépourvu d'épiderme; elle est lisse et brillante, souvent polie et sans stries; était particulier qui annonce dans l'animal une organisation spéciale, qui lui permet de renverser les lobes de son manteau sur la coquille et de lui conserver ce poli; ce brillant remarquables. Toutes ces coquilles, d’un médiocre volume, sont minces, fragiles, transparentes, parfaitement équivalves; la plupart sont parfaitement closes; il en est d’autres qui sont un peu baillantes dans la région dorsale en avant et en arrière de la charnière, d’autres enfin plus rapprochées des Galeomma, chez lesquels se montre un baillement étroit dans la longueur du bord inférieur; les crochets sont petits, souvent aplatis, opposés et à peine saillants au delà du bord cardinal. Nous avons remarqué dans un certain nombre d’espèces un caractère extérieur que nous n’avons pas eu occasion jusqu’ici de rencontrer dans d’autres coquilles: il consiste en une multitude de très fines ponctuations très nettes, déprimées, d’un blanc opaque sur le test transparent, et souvent tellement rapprochées que la coquille perd ainsi une grande partie de sa transparence.

Indépendamment des caractères généraux et extérieurs que nous venons de rappeler, le genre est plus spécialement reconnaissable par la structure de la charnière et les empreintes laissées par l’animal dans l’intérieur des valves.

Le bord dorsal ou cardinal est le plus souvent droit, rarement une peu arqué; une charnière très petite, très courte surtout, en occupe le centre. Cette charnière constituée à peu près comme celle des Erycines, s’en distingue cependant par ce fait important, qu’elle n’offre jamais cette échancrure plus ou moins large qui coïncide avec la position du ligament. Le bord cardinal dans les Scintilla reste droit, mince, étroit, souvent subcyllindracé, d’autrefois plus aplati et même creusé d’une gouttière en avant et en arrière de la charnière. Les dents cardinales sont très petites, une seule, rarement deux s’élèvent sur la valve droite; cette dent unique est ordinairement pyramidal, triangulaire un peu en crochet et pointue au sommet; deux dents très inégales sur la valve gauche; elles sont comprimées, l’antérieure la plus petite se projette obliquement vers le bord, l’autre plus épaisse et plus saillante descend perpendiculairement, et occupe la largeur du bord; quelquefois les deux dents sont parallèles et laissent entre elles un interval très étroit, dans lequel se pose la dent de la
valve opposée. En arrière du ligament et tout près de lui se nombre une dent latérale postérieure, le ligament étant très court; cette dent par le fait se trouve très rapprochée des cardinales. La dent latérale postérieure est peu variable: elle consiste sur la valve gauche en une saillie courte, tronquée au sommet et tranchée perpendiculairement en arrière, ce qui lui donne une forme quadrangulaire; dans quelques espèces cette dent s'allonge un peu plus, et devint triangulaire; sur la valve opposée, la dent est bifurquée, et c'est dans la très petite fossette, qui résulte de la bifurcation que s'interpose la dent de la valve gauche.

Le ligament occupe un très court espace entre les deux parties de la charnière; il est aplati, sans saillie à l'intérieure; il s'insère non dans tout l'espace que laissent les dents cardinales et latérales postérieur, mais seulement dans une petite rainure très étroite, oblique d'avant, en arrière et de haut, en bas un peu comparable à la fossette des ostéodesmes ou des Lyonsia, mais sans aucune trace d'osselet cardinal. Ce ligament devient parfois tellement exigu qu'il se rapproche alors de celui des Galeomma. Nous avons recherché s'il n'y aurait pas quelque trace d'un ligament extérieur; nous avons trouvé entre les crochets une très mince pellicule épidermique, qui s'étend d'une valve à l'autre, mais qui ne paraît jouir d'aucune des propriétés du ligament externe, car elle se brise au moindre mouvement des valves, et il n'y a aucune trace de Nymphes pour son insertion.

L'intérieur des valves étant souvent aussi brillant que l'extérieur, et les coquilles étant au reste très minces et transparentes, on apperçoit difficilement les impressions des muscles et du manteau, cependant on peut étudier ces parties dans des individus plus épaiss et plus opaques. Les impressions musculaires sont peu variables; elles sont situées dans la région dorsale, et rentrées en avant dans l'intérieur des valves; elles sont égales, ou presque égales; le plus souvent circulaires, quelquefois un peu subquadrangulaires, la postérieure surtout. L'impression palléale est simple; elle est située proche du bord, et le suit parallèlement dans son contour; rarement elle forme une ligne simple et étroite; le plus ordinairement elle est large et presque diffuse du côté interne.

La coloration dans le genre Seintilla tel qu'il est aujourd'hui connu, est peu variable; la plupart des espèces sont d'une blanc laiteux translucide, ou d'un corne vitreux, parfaitement transparent; peu-à-peu la couleur corneé devient plus intense passe au jaune blond ou fauve, transparent, et à l'orange pale; dans un petit nombre d'espèces la coloration est d'une rose pourpré d'une très agréable nuance.

1. Scintilla Cumingii, Desh. S. testa magna, ovato-transversa, aequilaterali, symmetrica, convexiuscula, solidula, candidissima, opaca, inaequaliter striato-rugosa, antice, postice atque ad marginem inferiorem minuissime punctato-granulosa utroque latere superne aequaliter declivis extremitatibus obtusa in marginie inferiori tenue et irregulariter denticulata; umbonibus parvis tumidis, oppositis vix prominentibus; lamina cardinali lata, dente cardinali
compresso, elongato in utraque valva, posticali approximato trigonali, abrupte resuto; cicatricula ligamenti angusta, obliqua, brevi.  
Hab. Ad littora Panamensia.

Le nom de M. Cuming se retrouve dans presque tous les genres des Mollusques; cela prouve à la fois la reconnaissance des naturalistes et la grandeur des services qu’il a rendus à la science.

2. Scintilla Jukesi, Desh. S. testa magna, ovato-transversa, aequilaterali, subsymmetrica, depressiuscula, utroque latere obtusa subtruncata, paululo hiante, canidissima, hyalina transversim obsolete striata; margine inferiore recto, inferiore leviter convexo, parallele; cardine angustissimo, subedentulo, dentibus minutis, obsolete; fossula ligamenti angusta, profunda; ligamento cavitate valvarum convexo, prominent.  
Hab. Portus Essingtonensis (Jukes).

3. Scintilla Cuvieri, Desh. S. testa ovato-subrotunda, turgidula, subaequilaterali, tenui, polita, nitidissima, pallide luteo-flavicante, pellucida transversim irregulariter striata; latere antico paulo breviore, obtuso, superne declivi; latere postico latiore dilatato; umbonibus minimis, acutis, oppositis vix prominulis; margine cardinali regulariter arcuato, intus lato et utroque latere canaliculato; dentibus cardinalibus in valvula sinistra dubus inaquilibus approximatis antico minore, in valvula altera dente unico obsolete; dente posticali brevissimo approximato.  
Hab. Baclayon in insula Boholensi Philippinarum.

4. Scintilla timoriensis, Desh. S. testa late ovata, transversa, subaequilaterali, subsymmetrica, depressa, pallide luteo-citrina, solidula, translucida, polita, nitidissima, obsolete striata, latere antico paulo breviore, postico latiore, aequaliter obtusus paululum hiantibus; umbonibus minimis acutis, vix prominentibus; margine cardinali recto, satis lato; dentibus cardinalibus minutis, inaquilibus, angustis, obliquis, posticali obsolete, fossula ligamenti brevi, lata; cicatriculis muscularibus minimis orbicularibus in parte superiore valvarum.  
Hab. Insula Timoriensis.

5. Scintilla solidula, Desh. S. testa ovata, compressiuscula, subaequilaterali, symmetrica, polita, nitida, translucida, transversim obsolete striata, albo pallide lutescente vel corneola, superne utroque latere aequaliter arcuata, extremitatis obtusa, inferne recta; valvulis solidiussulis intus iridescentibus; cardine crassulo dentibus cardinalibus duobus in valvula sinistra obtusis, valde inaquilibus, antico acuto minore in valvula dextra unico, obliquo, conico; posticali brevissimo cardine approximato; fossula ligamenti minima, angusta, brevissima.  
Hab. Tamar, insula Bohol Philippinarum.

6. Scintilla ovulina, Desh. S. testa ovato-transversa, inflata, solida, incrassata, subaequilaterali, alba vel pallide flavescente,
nitida, polita substriatave, opaca; latere antico paulo breviore et angustiore; umbonibus parvis, obtusis, vix prominulis; margine cardinale arcuato, inferiore recto; cardine incrassato; dentibus duobus in valvula sinistra valde inaequalibus, mediano maximo; dente posticali crasso, brevissimo, cardine approximato; fossula ligamenti brevissima angusta.

Hab. Basay, insula Samar Philippinarum.

7. Scintilla turgescens, Desh. S. testa ovato-subtrigonalis, tumida, turgida, inaequaliter, crassa, solida, alba, opaca, nitente, obsoleta transversim striata; latere antico paulo breviore, obtuso; margine superiore utroque latere arcuato, inferiore recto; umbonibus prominulis, obtusis, oppositis; cardine incrassato lato, in medio profunde emarginato; dentibus cardinalibus in valvula sinistra inaequalibus in altera dente unico crasso obtuso, dente posticali crasso, brevi, obliquo; fossula brevissima, profunda.

Hab. Sinus Moretonensis.

8. Scintilla turgida, Desh. S. testa ovato-transversa, turgida, aequaliter, subsymmetrica utroque latere obtusa, anticie hiane, hiata lancelolata; cardinalibus, nitidissima; latere antico paulo angustiore; umbonibus minimis, obtusis, brevibus; margine inferiore superioreque rectis et fere paraleulis; cardine crassato, subedentulo, dentibus obsoletis; ligatione minutissima, brevi.

Var. β. Testa minore, crassior, dentibus cardinalibus paulo majoribus.

Hab. Basay, in insula Samar Philippinarum.

9. Scintilla scintillans, Desh. S. testa ovato-transversa, convexiuscula, solidula, subaequaliter, nitida, polita, sub epidermide tenui, pallide glaucescente alba, in medio spatio triangulare vitreo notata; umbonibus minimis acutis, brevibus, vix prominentibus; margine superiore leviter arcuato, inferiore rectisculo; cardine crassulo, angusto, dentibus cardinalibus in valva sinistra subaequalibus, posticali brevi, compresso, postice truncato, apice obtuso.

Hab. Insula Bohol Philippinarum.

10. Scintilla crocea, Desh. S. testa ovata, compressa, inaequaliter, eleganter crocea, nitida, pellucida, fragili, polita, zonulis pellucidioribus interrupta; latere antico paulo breviori et angustiori, postico dilatato; margine superiore atque inferiore rectis, parallelis; umbonibus minitis acutis, vix prominentibuis; cardine lato, brevi, dentibus cardinalibus approximatis inaequalibus, posticali fere nullo; fossula ligamenti brevissima.

Hab. Insula Negros Philippinarum.

11. Scintilla flavida, Desh. S. testa latata, ovato-transversa, depressa, subaequaliter, symmetrica, utroque latere æqualiter obtusa, paulo hiante, tenui, fragili, nitidissima, transversim obsolete et satis regulariter striata, corneo-flavescente, translucida; um-
bonibus minimis, acutis, vix prominulis, oppositis; cardine angusto, solidulo, brevi; dente cardinali unico in utroque valva; dente posticali compresso valde approximato; fossula ligamenti angusta, brevissima.

_Hab._ Basay, insula Samar Philippinarum.

12. _Scintilla Reevei_, Desh. _S. testa_ ovato-transversa, subæquilaterali, subsymmetrica, depressiuscula, albo flavidula translucida, irregulatier transversim obsolete striata, nitente, utroque latere æqualiter obtusa, parum hiante; umbonibus brevibus, obtusis, vix prominentibus; margine cardinali recto inferiori æqualiter recto, parallelo; cardine lato in valvula sinistra inæqualiter bidentato; dente mediano majore compresso, in valvula dextra bidentato dente antico majore, dente postico brevissimo, abrupte truncato, in valvula dextra bifido.

_Hab._ Bais, in insula Negros Philippinarum.

13. _Scintilla Tenuis_, Desh. _S. testa_ ovato-transversa, depressa, inæquilaterali, albo-translucida, tenuissima, fragili, transversim tenue striata; latere antico breviori, angustiori obtuso, postico superne dilatato, paulo hiante; umbonibus minimis, obliquis acutis; cardine angusto bidentato, altero unidentato; dentibus minimis inæqualibus, obsoletis, posticali brevi, truncato, compresso.

_Hab._ Basay, insula Samar Philippinarum.

14. _Scintilla Philippinensis_, Desh. _S. testa_ ovato-transversa, compressa, æquilaterali, subsymmetrica, alba pallidissime flavidicante, tenui, fragili, transversim inæqualiter striata, nitente; margine superiore inferioreque rectis parallelis; umbonibus minimis, brevibus obtusis, oppositis; cardine solidulo, latiusculo, dentibus cardinalibus, minimis, laterali postico brevi, approximato, truncato; margine cardinali utroque latere canaliculato.

_Hab._ Insula Zebuensis Philippinarum.

15. _Scintilla striatina_, Desh. _S. testa_ ovato-transversa, compressa, subæquilaterali, tenuissima, fragili, albo pallidissime nitente, transversim tenue et regulariter striata; latere antico paulo breviore et angustiore; umbonibus minimis, acutis, brevibus, vix prominentibus; margine superiore leviter arcuato, inferiore fere recto; dentibus minimis, acutis, inæqualibus, postico oblongo, compresso, triangulari.

_Hab._ Insula Bohol Philippinarum.

16. _Scintilla succinea_, Desh. _S. testa_ late ovata, tumidula, solida, inæquilaterali, polita, nitida, obsolete striata, succinea, translucida, intus albo leviter velata; latere antico paulo breviori et angustiore, umbonibus minimis obtusis, oppositis; margine superiore brevi, subrecto, inferiore parallelo; cardine crassulo, bidentato, dentibus inæqualibus, posticali fere nullo; cicatriculis muscularibus minimis circularibus.

_Hab._ Baclayon in insula Boholensi Philippinarum.
17. Scintilla candida, Desh. S. testa regulariter ova, transversa, subaequilaterali, subsymmetrica, candidissima, transversim obsolete striata; striis irregularibus nitida, utroque latere aequaliter lata et obtusa; latere antico paulo breviore; margine cardinali atque inferiori parum arcuatis, parallelis; umbonibus parvulis, acutis vicz prominentibus; cardine angusta; dentibus cardinali-bus duobus in valvula sinistra subaequalibus; dente posticali elongato, angustissimo, fossula ligamenti brevissima. 
Hab. In insula Burias atque Boholensi Philippinarum.

18. Scintilla pallida, Desh. S. testa ovato-subrotunda, compressa, subaequilaterali, tenuissima, pellucida, vitrea, fragili, nitidissima, transversim undato-plicata; plicis latis, undulatis in medio evanescentibus; latere antico paulo breviore, angustiori, obtuso; margine cardinali angustissimo quasi edentulo; dente cardinali unico in valvula dextra, in altera dentibus nullis, dente posticali elongato, obsolete; fossula ligamenti brevissima, angustissima.
Hab. Insula Boholensis Philippinarum.

19. Scintilla hydatina, Desh. S. testa ovato-transversa, compressa, subaequilaterali, tenuissima, pellucida, vitrea pallidissima flavicante polita, nitente, utroque latere aequaliter obtusa; umbonibus minimis, non prominentibus oppositis; margine cardinali in medio angustissimo, laterali-latro, planulato; dentibus duobus in valvula sinistra minuti subaequalibus; dente posticali brevi presso, subquadragulari.
Hab. Baclayon in insula Boholensi Philippinarum.

20. Scintilla crystallina, Desh. S. testa minima, ovato-transversa, depressiuscula, inaequilaterali, tenuissima, nitidissima, corneo-vitrea, polita, nitente, parum obliqua; latere antico paulo breviore utroque postico superne utroque latere cardini-bus dilatales; umbonibus minimis, angustis, acutis, obliquis; cardine lato, denticibus duobus in valvula sinistra, unico in valvula dextra, dente posticali elongato, angustato, fossula brevissima.
Hab. Caagsu in insula Mindanao Philippinarum.

21. Scintilla opalina, Desh. S. testa ovato-rotundata, transversa, compressiuscula, subaequilaterali, tenuissima, hyalina, fragili, pallide lutescente, polita, nitente, ad margines substrati, ad apices lavigatissima, latere antico paulo breviore, posteriorem tantisper acuminato; cardine angustissimo, in utroque valva unidentato, dentibus minimis posterioribus vix perspicuis; fossula ligamenti per-angusta, lineari, brevi; umbonibus parvis, vix prominentibus.
Hab. Insula Luzon Philippinarum.

22. Scintilla vitrea, Desh. S. testa suborbiculares, valde depressa, subaequilaterali, tenuissima, fragili, pellucida vitrea nitidissima, pallide flavidula, transversim minute striata; latere antico paulo breviore superne declivi, postico paulo latio; margine superiore arcuato paululum obliquo; cardinali margine ad extre-
mitates latiore, dentibus cardinalibus duobus inaequalibus in utraque valva, dente postico brevissimo; fossula ligamenti brevi angusta.

An Erycina Cuvieri, var. junior?

Unicum specimen vidi.

Hab. Insula Burias Philippinarum.

23. Scintilla hydrophana, Desh. S. testa regulariter elliptica, transversa, subequilaterali, compressa, tenui, pellucida, hyalina, corneo-pallide flavescente, subsymmetrica, æqualiter extemmitatibus obtusa, paulo hiante; latere antico paulo breviare; umbonibus minimis, acutis, oppositis, brevibus; margine cardinali fere recto, inferiori rectiusculo parallelæ; cardine angusto in utraque valva bidentato; dentibus inaequalibus angustissimis; dente posticali brevissimo, acuto.

Hab. Zambalis, in insula Luzonica Philippinarum.

24. Scintilla pudica, Desh. S. testa ovato-transversa, turgidula, oblonga, inaequaliter, roseo-purpureascente intus extus æqualiter picta, nitidissima, irregulariter transversim striata, ad apices minutissimæ albo punciticulata; puncutalis depressis, irregulariter sparsi; latere antico breviori, obtuso; umbonibus minimis, acutis, oppositis; margine superiore leviter convexo, inferiore recto; cardine angusto in utraque valva inæqualiter bidentato; dentibus parallelis; dente posticali brevi, plano, truncato, subquadraangulari.

Hab. Zambalis, in insula Luzonica Philippinarum.

25. Scintilla rosea, Desh. S. testa ovato-oblonga, transversa, turgidula, subequilaterali, rosea, ad margines intusque albescente, solidula, nitidissima, transversim irregulariter striata, sub lente longitudinaliter obsolete striolata; latere antico breviore et angustiore obtuso, postico latiore; umbonibus minimis, obtusis, oppositis; margine superiore tantisper convexiusculo, inferiore recto; cardine angusto, in utraque valva bidentato; dentibus minimis inæqualibus divaricatis; dente postico brevi, plano, truncato, subquadraangulari.

Hab. Zambalis, in insula Luzonica Philippinarum.

26. Scintilla Recluziana, Desh. S. testa ovato-transversa, angusta, turgidula, inaequaliter, tenui, fragili, pallide purpurea, hyalina, nitida, transversim irregulariter leviter striata, punctulis minutissimis, depressis, irregulariter adspersa; latere antico breviore et angustiori, postico æqualiter obtuso; umbonibus minimis, obtusis, vix prominentibus; cardine angusto, in valvula sinistra unidentato, altero edentulo; dente posticali obsoletō.

Hab. Australia septentrionalis.

27. Scintilla pallidula, Desh. S. testa ovato-transversa, oblonga, turgidula, æquilaterali, symmetrica, crassa, solida, albo pallide flavescente, apicibus pallide aurantiaca, nitida, irregulariter transversim striata, irregulariter punctulis depressis minutissimis adspersa; umbonibus minimis, approximatis, acutis, oppo-
sitis; margine superiore atque inferiore leviter convexis, parallelis, valvulis intus nitidis, pallide aurantiacis; cardine angusto, utraque valva inaequaliter bidentato; dente posticali brevissimo, truncato, subquadrangulari.

Hab. Insula Zebuensis Philippinarum.

28. Scintilla Forbesii, Desh. S. testa ovato-transversa, solidula, aequilaterali, subsymmetrica, extremitatis aequaliter obtusa, intus extusque pallide flavescente, nitida, hyalina, transversim obsolete striata, densissime et minutissime albo punctulata; punctis irregulariter sparsis depressis; margine superiore et inferiore rectis, parallelis; cardine crassiusculo, altera unidentato, dentibus duobus subaequalibus acutis minimis; dente posticali brevissimo in valvula sinistra bifurcato; fossula ligamenti minima, angusta.

Hab. Insula Borneo.

À la mémoire de Ed. Forbes, l’un des plus éminents naturalistes de la Grande Bretagne, et dont la science pleurera longtemps la perte à jamais regrettable.

29. Scintilla aurantiaca, Desh. S. testa ovato-transversa, turgida, subcyllindracea, angusta, inaequaliter, pallide aurantiaca, nitida, tenui, hyalina, striata, punctulis minutissimis distantiis, albis, irregulariter sparsis, depressis, ornatis, ad marginem inferiorum ovateis; latere antico paulo breviore et angustiore; umbonibus minimis magis concoloribus; margine superiore parum obliquo, recto, inferiori leviter convexo, subparallelo; cardine angusto; dentibus duobus inaequalissimis in valvula sinistra, unico validiore conico, in altera; dente posticali brevissimo, approximato, conico.

Hab. Australia septentrionalis.

30. Scintilla Adamsii, Desh. S. testa elongato-transversa, ovata, aequilaterali, inflata, tenui, pellucida, pallide luteo-flava, nitidissima, transversim obsolete striata, albo punctatissima, punctulis albis depressis, minutissimis, irregulariter sparsis, usque cardinalibus crassiusculo, recto, inferiori recto, parum obliquo; dentibus in valvula sinistra duobus inaequalissimis, obliquis; in valvula dextra dentibus duobus subaequalibus; dente posticali punctato, brevi subquadrangulari; latere antico paulo angustiore.

Hab. Insula Boholensis Philippinarum.

À M. Arthur Adams, le savant auteur du Genera des Mollusques Vivants, des Mollusques du Samarang, &c.

31. Scintilla Owenii, Desh. S. testa ovato-transversa, turgida, aequilaterali, subsymmetrica, tenui, corneo-alba, hyalina vitrea, zonulis angustis opacioribus ad margines notata, nitidissima; lateribus aequaliter obtusis; umbonibus obtusis, brevissimis, oppositis, vix prominentibus; margine superiore recto, angusto, inferiori parallelo; cardine brevi, dentibus minimis duobus inaequalissimis,
in valvula sinistra; dente posticali minimo brevi, subquadrangulari.

_Hab._ Insula Zebuensis Philippinarum.

En attachant à cette espèce le nom de M. Richard Owen, le plus grand zoologiste de l'empire Britannique, j'aime à rappeler ses titres à l'admiration du monde savant.

32. _Scintilla Hanleyi_, Desh. _S. testa ovato-transversa, satis lata, depressiuscula, subequilaterali, albo-hyalina, ad apices vitrea, tenuissima, fragili, nitidissima, transversim obsolete striata, leviter undulata; intere antico paulo breviori obtuso atque posticali paulo hiantibus; margine superiore leviter arcuato, utroque latere cardinis extus dilatato, inus subcanaliculato; cardine brevissimo in valvula sinistra bidentato; dentibus subaequalibus, approximatis; dente posticali brevissimo, apice truncato._

_Hab._ Insula Zebuensis Philippinarum.

Nous attachons avec plaisir à cette espèce le nom de M. Hanley, savant Conchyliólogiste, auquel la Grande Bretagne doit la plus grande partie du meilleur et du plus complet des ouvrages sur les Mollusques des mers Britanniques.

33. _Scintilla porulosa_, Desh. _S. testa ovato-transversa, an-gusta, turgida, subequilaterali, tenui, nitida, alba subhyalina, transversim obsolete striata, puncticulis minutissimis, albis, depressis, numerosissimis irregulariter sparsis adpersa, quasi porulosa; margine superiore angusto, recto, inferiori parallelo; cardine brevi inaequaliter bidentato, altero unidentato; dentibus minus-tis; dente posticali brevissimo, obsolete._

_Hab._ Insula Boholensis Philippinarum.

34. _Scintilla hyalina_, Desh. _S. testa ovato-transversa, depressiuscula, subequilaterali, tenui, pellucida, corneo-vitrea, alba, pallidissime flavidula, nitida, transversim striata; latere antico paulo breviori, paulo obliquato, antice superque lato hiant; umbonibus parvulis, brevissimis, acutis, vix prominulis; margine superiore in medio recto, extremitatis oblicuo, inferiori convexiusculo, superiori parallelo; cardine lato, dente uncinato, acuto, in utroque valva; dente posticali brevi, trigonalis, obtuso, altero bifido.

_Hab._ Insulae Torres dictae.

35. _Scintilla faba_, Desh. _S. testa ovato-transversa, turgida, in medio subcylindracea, inaequaliteri, candidissima, nitida, tenui, translucida, irregulariter transversim striata, punctatissima; puncticulis minutissimis, depressis, irregulariter sparsis, ad marginem inferiori evanidis; latere antico paulo breviori et angustiore; umbonibus tumidulis obtusis, brevibus oppositis; margine superiore recto paululum obliquo, inferiori angustissime hiant, recto; cardine altero inaequaliter bidentato, altero unidentato, dentibus acutis, prominentibus; dente posticali brevissimo, apice truncato, prominente.

_Hab._ ——? _Coll. Cuming._
36. Scintilla Strangei, Desh. S. testa ovato-transversa, turgidula, æquilaterali, tenuissima, hyalina, alba, ad apices subvitrea, polita, nitissimissima, superne utroque latere hiane, extremitatis æqualiter obtusa; umbonibus minimis, brevissimis, obtusis, oppositis non prominis; margine superiore recto, inferiore paulum convexo, parallelo; cardine angusto, dente unico, obtuso, obsoleto, in utroqueacula; dente posticali brevissimo, obsoleto; ligamento minutissimo.

Hab. Sinus Moretonensis (Strange).

37. Scintilla Anomala, Desh. S. testa ovato-subquadrundaria, transversa, æquilaterali, symmetrica, depressa, alba, pellucida, tenui, fragili, nitida, in medio translucidiore, superne sub lente minutissime puncticulata, ad marginem superiorem striis divergentis minutis ornata; margine superiore atque inferiore rectis, parallelis; latere antico subtruncato; umbonibus minimis acutis vix prominentibus; cardine angusto extremitatis dilatato; dentibus cardinalibus obsoletis, postico dente nullo; cicatricula musculari postica bipartita.

Hab. Insula Samar Philippinarum.

Cette espèce est sur la limite des Scintilla et pourrait bien appartenir au genre Lepton; cependant elle en diffère par la charnière, à laquelle on ne trouve pas les dents longues et divergentes telles quelles sont représentées par MM. Forbes et Hanley dans leur ouvrage sur les Mollusques des mers Britanniques.


1. Erycina Rotunda, Desh. E. testa orbiculato-tumida, subcardiformi, fere æquilaterali, transversim substriata, albo griseola, iridescente, nitida, tenui, translucida, latere antico paulo breviori; umbonibus minimis, parum obliquis; cardine angusto, dentibus cardinalibus minimis, inæqualibus antico compresso, prominentiori acuto; in valvula dextra dente unico uncinato, acuto, lateraliter compresso, dente postico brevi, trigonali, acuto; fossula ligamenti angusta, obliqua, profunda.

Hab. Sinus Moretonensis (Strange).

2. Erycina Cycladiformis, Desh. E. testa ovato-subrotunda, tumida, inæquilaterali, levigata, nitida, epidermide griseo glaucescente tenui vestita, iridescente, transversim tenui et irregulariter striata; latere antico breviori obtuso; valvulis tenuibus translucentibus; cardine angustissimo; dentibus cardinalibus duobus in valvula sinistra, minutis, profunde basi disjunctis inæqualibus, laterali postico remoto; impressione musculari antica circulari minima, postica ovali cum impressione pallii continua.

Erycina Cycladiformis, Desh. Trait. clém. pl. 11. fig. 6 à 9.

Hab. Le nord de la Nouvelle Hollande (Jukes); la Nouvelle Zélande (Quoy).
3. Erycina denticulata, Desh. E. testa ovato-trigonal, donaciformi, valde inaequilateral, antice oblique truncata, polita, nitidissima, nec striata, albo-griseo-flavescente, crassa, solida; latere antico brevi, obtuse truncato; margine superiore angulato, inferiore recto, intus tenue et regulariter denticulato; cardine incrassato, dentibus duobus in valvula sinistra inaequalibus crassis, divaricatis; interno majore; in valvula dextra dente unico pyramidal, acuto, uncinato; dente posticali magno, brevi, crasso, trianguli, apice obtuso; ligamento brevissimo.

Hab. Insula Borneo dicta.

4. Erycina bullula, Desh. E. testa minima, suborbiculari, inflata, subaequilaterali, alba, translucida, epidermide tenuissimo griseo vestita, transversim inaequaliter striata; umbonibus prominulis, acutis; dentibus cardinalibus magnis, crassis, in valvula sinistra duobus inaequalibus; antico majore, laterali postico brevi, trianguli, intus producto; fossula brevi, angustissima; valvulis crassiusculis, intus lacteis.

Var. β. Testa crassiore, solidula, albo-opaca, cardinalibus dentibus solidioribus.

Hab. Insulae Philippinenses.

5. Erycina parva, Desh. E. testa minima, orbiculari, subaequilaterali, turgidula, tenuissima, nitida, polita, corneo-alba, pel- lucida, inaequaliter substriata; latere postico paulo longiore, latiore, dilatato; cardine angusto, dentibus cardinalibus minutis, inaequalibus subdivergentibus, dente postico fere acuto; fossula brevi, angustissima; cicatriculis muscularibus cæqualibus.

Hab. Basay, in insula Luzon.

6. Erycina Zebuensis, Desh. E. testa ovato-suborbiculari, obliqua, inaequaliteri, tenui, fragili, tumidula, albo-lactea, translucida, obsolete striata, polita, nitente; umbonibus minimis, obtuis; cardine arcuato, angusto, dentibus duobus in valvula sinistra minutissimis; dente posticali remoto, elongato; fossula ligamentis angustissimis, elongata.

Hab. Sebinga in insula Zebuensi Philippinarum.

7. Erycina guttula, Desh. E. testa ovato-suborbiculari, obliqua, inaequaliteri, depressiuscula, albo-pellucida, zonulis lacteis intersecta, fragili, tenuissima, polita, nitente; latere antico breviore, angustiore; umbonibus obliquis, porrectis, acutis, vix prominulis; cardine arcuato, angustissimo, subedentulo; dentibus cardinalibus minutissimis obsoletis, postico nullo; fossula ligamentis angustis.

Hab. Insula Burias Philippinarum.

8. Erycina macrodonta, Desh. E. testa rotundato-inflata, obliqua, inaequaliteri, inaequaliter striata, albo lactescente, zonulis transversis pellucidis interrupta; umbonibus oblique prominentibus, acutis; latere antico brevi, obtuso; cardine
incrassato, dentibus cardinalibus in valvula sinistra duobus sub-aqualibus, antico uncinato, in valvula dextra dente unico, maximo, triangulare, compresso; dente posticali brevi acuto, triangulare; cicatriculis muscularibus minimis, aequalibus, circularibus.

Hab. Basay, in insula Luzon.

9. Erycina grata, Desh. *E. testa ovata, tumidula, parum obliqua, inaequalaterali, tenui, pellucida, alba, zonulis pellucidioribus interrupta, excilime sub lente puncticulata, puncticulis numerosissimis subreticulata; dentibus cardinalibus minimis vix perspicuis inaequalibus, acutis, dente laterali postico elongato valde remoto; fossula ligamenti lineari, elongata; margine inferiori valvularum obsolete undulato.

Hab. Insula Samar Philippinarum.

10. Erycina papyracea, Desh. *E. testa late ovata, transversa, depressiuscula, subaequalaterali, tenissima, fragili, albo-lactea, translucida, sub lente striis obliquis minuitissimis subgranosis clathrata, textillosa; latere antico superne declivi, breviori, obtuso, postico acuto, latiore; umbonibus parum obliquis, obtusiis, non prominentibus; margine cardinali arcuato, tenissimo, unidentato, in valvula dextra bidentato, in sinistra dentibus minimis angustis aequalibus, posticali minimo, brevi, triangulari, acuto; ligamento elongato, angustissimo.

Hab. Columbia occidentalis.

11. Erycina Australis, Desh. *E. testa ovato-transversa, tumidula, inaequalaterali, candide lactea, translucida, tenui, fragili, nitidissima, obsolete transversim striata; latere antico brevi, obtuso, subtruncato; latere postico superne declivi, ad extremitatem obtuse angustato; margine superiore recto, inferiore aequaliter recto, parallelo; cardine angustissimo; in valvula sinistra dentibus duobus minimis inaequalissimis, in dextra dente validiore, uncinato; dente posticali elongato, triangulare.

Hab. Australia septentrionalis.

12. Erycina dubia, Desh. *E. testa ovato-transversa, tumidula, oblique inaequalaterali, tenui, pellucida, fragili, alba nitida transversim tenue striata; latere antico brevi, obtuso, paulo angustiore, postico duplo majori; umbonibus brevissimis, acutis, obliquis vix prominentibus; margine cardinale lineari, oblique arcuato, inferiori recto; cardine angusto in medio late emarginato, antico bidentato, in valvula sinistra unidentata, in dextra dentibus minuitissimis inaequalibus; dente posticali elongato, angusto, obsoletio.

Hab. Insula Muerte dicta in sinu Guayaquillense.

**Family Colymbidæ.**

**Genus Podiceps.**

**Podiceps philippensis.**

I believe the egg sent with this paper, to be that of the Grebe. It was taken from the nest with several others in the month of August. The nests were composed of rotten reeds and grass, fastened between tall reeds*; each nest contained about eight eggs, 1 inch and nearly \( \frac{1}{6} \)ths in length, by 1 inch in width. Some of the eggs were nearly white, others much discoloured.

**Family Pelecanidæ.**

**Subfamily Laridæ.**

**Genus Sterna.**

**Subgenus Sterna.**

**Sterna melanogaster** (Temm.). **Black-bellied Tern.**

I found this Tern common on the river Bheena, and was fortunate enough to obtain an egg. On a second occasion, when walking on a sandbank in the midst of the river where I obtained the first egg, I was beset by a pair of these Terns, and on looking about on the ground, found two eggs deposited in a slight hollow scraped in the moist sand, not far from the brink of the water. These birds, when flying overhead, utter a cry very like the chirp of a Sparrow. One could easily distinguish the different kinds of Terns by their varied notes.

The Black-bellied Tern breeds during the months of March and April, laying two eggs. The egg measures 1 inch and rather more than \( \frac{1}{6} \)ths in length, by 1 inch in width. It is of a rich stone-colour, spotted chiefly round the centre, and more sparingly over the large end with grey and light brown spots.

**Subgenus Rhynchops.**

**Rhynchops nigra.**

This large species of Tern I found most abundant on the river Bheena, and had ample opportunities of studying its habits. On a large sandbank in that river I found that a large colony and established themselves, and found young birds able to fly, nestlings and

* The eggs were carefully covered over, and the heat arising from the nest was most perceptible: the eggs appear to be hatched by the heat arising from the decaying vegetable matter.
eggs. The appearance of these birds is attractive, their long orange razor-like beak, long wings, and curious skimming flight, ever and anon dipping their lower mandible under water, their odd shuffling gait when walking on the sand, as if they scarcely knew what to do with their beak, and apparent difficulty in arranging their long swift-like wings, their curious chattering notes when they assemble on some spit of sand at the water’s edge,—all these points attract any one fond of natural history.

I first noticed these birds on a mud-bank in the river in the month of January. On visiting the same place in April, I found them on a sand-bank higher up, and suspecting this to be their breeding-time, was conveyed over the water to the bank. On reaching it and narrowly inspecting the ground, I found the remains of broken egg-shells; after a further search, I was rewarded by finding four or five nests, also the nest of a Little Ringed Plover and Black-bellied Tern. The Rhynchops lays four eggs in a hole scraped in the damp sand and gravel. Those which I found were mostly near the water’s edge. In some nests I found young ones, and procured one young bird that was able to fly very fairly. Any one at all accustomed to the habits of birds might have told that they were nesting by their restlessness, and the vicious way in which they attacked all intruders. I saw them buffet a large Plover that pitched on the bank, and boldly attack those insatiable pilferers of nests, the Crows. The very young birds, when first hatched, are covered with a white-brown down, spotted with dark spots. The curious square end of the beak is very marked. The legs and feet of a dirty greyish-brown. The eggs are rather more than 1½ inch in length, by 1 inch and rather more than ⅕ th in width, of a pale stone colour, spotted and blotched with grey and two shades of brown.

I subjoin the description of a young bird that was able to fly, probably about six weeks or two months old. The beak (after the skin was dried) was of a dull brown tinged with orange; the under mandible sharp, as in the old bird, but scarcely longer than the upper. Feathers on the cheeks pale fawn colour, with a few dusky spots, those on the forehead much the same, but the dusky spots more visible; on the top of the head behind the eye, back of the neck, the feathers are dull black, with pale ferruginous edges; lower part of the back of the neck whitish, with a broad brown bar, and tipped with pale ferruginous; upper tail-coverts, some dusky black, with pale ferruginous edges, some ferruginous mottled with white; tail-feathers, lower portion white, upper portion dusky, with a marked border of pale ferruginous; primaries nearly black, with pale tips; smaller quill-feathers, lower portion dusky, upper nearly white; secondaries much the same, the white being much clearer; greater coverts dusky, with whitish tips; tertials dusky, with pale ferruginous edges; the lesser coverts the same; chin, throat, breast and belly, under tail-coverts white; sides of the neck white, with a few dusky spots; legs and feet dirty orange-brown.

No. CCXCVI.—Proceedings of the Zoological Society.
7. On the relative weight of the Body and of the Viscera of the Elephant. By Edwards Crisp, M.D.

In July 1854, I made a communication to the Society on the weight and form of the viscera of the Elephant, and I exhibited drawings of the thoracic and abdominal viscera of the size of life; I made some additional observations on the same subject at the Physiological Society of London, an abstract of which is published in the medical journals (the 'Lancet' and 'Medical Gazette').

The animal I had then dissected was a male Elephant, which died on Marsden Moor, in Yorkshire, in the menagerie of Mr. Wombwell. The recent death of the female Elephant in the Society's collection enables me to extend my observations, and I purpose now only giving the comparative weight of the bodies and of the viscera of these animals, with a few additional remarks.

The age of the male was twenty-two years, and he measured 10 feet from the highest part of his back. The animal, prepared by Mr. Bartlett, is now in the Crystal Palace. The cause of death, inflamed lungs. The weight stated at the Railway was 3 tons when the body was eviscerated, but, judging from the weight of the last specimen, it could not altogether have exceeded 3 tons, and assuming this to have been the weight, the relative proportion of the viscera is about as follows:

<table>
<thead>
<tr>
<th>Viscera</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td>12 lbs. 3 1/3</td>
</tr>
<tr>
<td>Lungs</td>
<td>47 lbs. 8 oz.</td>
</tr>
<tr>
<td>Heart</td>
<td>17 lbs. 9 oz.</td>
</tr>
<tr>
<td>Liver</td>
<td>33 lbs. 12 oz.</td>
</tr>
<tr>
<td>Spleen</td>
<td>6 lbs. 9 oz.</td>
</tr>
<tr>
<td>Right kidney</td>
<td>7 lbs. 2 oz.</td>
</tr>
<tr>
<td>Left kidney</td>
<td>5 lbs. 10 oz.</td>
</tr>
<tr>
<td>Alimentary canal</td>
<td>106 feet</td>
</tr>
</tbody>
</table>

The next mentioned animal, a female, about thirty years of age, had been eighteen years at the Society's Gardens, and was in good health and condition up to July the 14th, 1855, when, during the thunder-storm on that day (Saturday), she exhibited signs of fright, diarrhœa came on, she shook violently, and died at five o'clock on Monday morning. From the appearance of the blood, microscopical and otherwise, I have reason to believe that her death was occasioned by fright or by electrical influence.

Mr. Bartlett had the body weighed, and the subjoined is the result:

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>683 lbs.</td>
</tr>
<tr>
<td>Flesh and bones</td>
<td>3642 &quot;</td>
</tr>
<tr>
<td>Supposed loss</td>
<td>200 &quot;</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4525&quot;</strong></td>
</tr>
</tbody>
</table>

The viscera were weighed with steelyards, and adding the weight of
the viscera to the above, the total amount is about 5225 lbs. The under-mentioned are the proportions:

Heart, 23 lbs. \( \frac{1}{2} \) 7.
Lungs, very much congested, 107 lbs. \( \frac{1}{4} \) s.
Liver, 50 lbs. \( \frac{1}{6} \) 7.
Spleen, 9 lbs. \( \frac{3}{8} \) 7.
Kidney, 8 lbs. \( \frac{4}{3} \) 7.
Alimentary Canal—Esophagus about 6 feet.
Stomach 3 "
Small intestines 74 "
Cæcum 5 "
Other large intestines 35 "

123 "

The large intestines, from their great weight, were not extended like the small, and I measured them with a foot rule, so that the exact length could not be given, but I believe that the error (if any) is very slight. The large intestines were of great size, and would probably have held 150 gallons of water.

In estimating the comparative weight of the viscera of the above animals, it must be borne in mind that the male was very thin, and the female in excellent condition; and this leads me to speak of a curious circumstance respecting the presence of fat in the body of the Elephant. In the male not a particle of fat was present. Mr. Bartlett, who has assisted at the dissection of four Elephants besides the last-named, could find no fat in their bodies, and all writers that I know of have made the same statement. The body of this animal, however, contained a large quantity (probably 40 or 50 lbs. in all) of fat. This was not deposited in solid hard masses, as in the carnivora, ruminantia, and other animals, but it was dispersed about the viscera, stomach, intestines, heart and mesentery in thin thin layers, and a great deal of it, when the body was warm, was in a fluid state; but on cooling it assumed a tallowy condition, and evidently contained a large quantity of stearine.

Another circumstance I may allude to, respecting the assertion of many writers, that the body of the Elephant decomposes very rapidly; but this, as I stated in my first paper, depends much upon the state of the atmosphere. The body of this animal was in a rapid state of decomposition; but the viscera of the male, which were buried on Marsden Moor, and which I had exhumed after the animal had been dead about a week, were scarcely in the first stage of decomposition, but the weather was excessively cold.

The kidneys of the female were lobulated, those of the male not lobed.

As stated in my first communication, I examined in the space of a fortnight the teeth of ten living elephants in this country, and this animal was among the number. I copy the description given in February 1854:—"One molar on each side of the upper jaw, one on the left lower jaw, and two on the right side. The anterior one
being narrow, of a dark colour, loose, and evidently on the point of being shed.”

The keeper found this tooth some months after. At the time of death there were four molars; the upper two having eleven plates each, the lower, twelve. No rudimentary teeth were perceptible externally, but small apertures existed for their advent.

8. On some Points relating to the Anatomy of the Tasmanian Wolf (Thylacinus) and of the Cape Hunting Dog (Lycaon pictus). By Edwards Crisp, M.D.

Before I proceed to the immediate object of my communication, I may be excused, I trust, for alluding to a mode of investigation that I have followed in all my dissections, viz. that of taking accurate weights and measures of the body of the animal and of the viscera, with drawings the size of life of the organs examined.

By this method, combined with the use of the microscope, I believe hereafter that much light will be thrown upon many physiological subjects which are at present but imperfectly understood. It is, however, only by comparison on a large scale that any important benefit is likely to result.

Thylacinus Cynocephalus.

This animal (a male) died at the Society’s Gardens, where it had been for several years. I believe it is the only one that has been dissected in this country. It weighed 33 lbs., and measured from nose to root of tail 2 feet 9½ inches. The tail, 15 inches. The penis curved backwards. The cause of its death was unapparent. It was excessively fat; the fat on its abdomen and other parts weighing probably four or five pounds. The heart, long and pointed; weight, 4 oz. 60 grs. The trachea of moderate size; the connecting membrane at the posterior part very thick. The lungs trilobed; weight, 4 oz. 304 grs. The liver composed of five main lobes; weight, 14 oz. The spleen long, thin and narrow, with a lateral tongue-like process (as in nearly all of the Marsupiata) ½ from the upper end. Length of spleen, 10½ inches; its average breadth about an inch; it was seated along the left side of the stomach, imbedded in fat. The kidney of a rounded form; weight, 1 oz. 167 grs. The alimentary canal measured only 6 feet 6 inches. The stomach of moderate size; its coats very thick, and capable of great distension. The rugæ of the lining membrane large and prominent; the pyloric valve strong and muscular; the length of empty stomach 8 inches; the duodenum at its commencement studded with numerous bead-like processes, which emerged into a portion of mucous membrane thickly studded with villi about 3 lines in length, as represented in fig. 1. These were continued for nearly four feet; they resemble much the rumen of the sheep or rein-deer. In the small intestines of the Rhinoceros, fig. 2, the villi are about 6 or 8 lines in length, but far less numerous.
The cæcum absent. The large intestine measured 12 inches; the coats thick and the lining membrane plicated longitudinally. The relative weight of the viscera as compared with that of the body is about as follows:—Liver, \( \frac{1}{17} \); spleen, \( \frac{1}{3} \); kidney, \( \frac{1}{3} \); heart, \( \frac{1}{2} \); lungs, \( \frac{1}{12} \); the blood-corpuscles about \( \frac{1}{8} \) of an inch in diameter.

Fig. 1. Fig. 2.

I have examined the two skeletons of the *Thylacinus* at the Museum of the College of Surgeons, a description of which is given by Professor Owen in the new Osteological Catalogue (p. 347). The teeth, 46 in number; incisors, 8 above and 6 below; canines, 4; molars, 28, 14 in each jaw = 46. Vertebrae: cervical, 7; dorsal, 13; lumbar, 5; sacral, 2; caudal, 23; ribs, 13.

The time does not allow me to dwell on many points of great interest respecting the anatomy of this animal, but a comparison of the structure of the *Thylacinus* with the Dog I am about to describe will not be unprofitable.

**Cape Hunting Dog (Lycaon pictus. S. Africa).**

This animal died at the Society’s Gardens, where it remained for some months previous to its death, a few days before which period it had several convulsive fits. I could not examine the brain; but Mr. Ward, who stuffed the animal, told me that a large quantity of serum escaped from the cranium, so that probably death was occasioned by inflammation of the brain and effusion of fluid.

In Cuvier’s ‘Animal Kingdom,’ 1849, by Carpenter, p. 91, is the following note:—“This remarkable species is dog-like, but certainly not a *Canis*; its form and colouring (and, there is reason to suspect, its internal conformation) are rather those of a hyæna, and it is known to copulate in the manner of those animals, and not in the peculiar manner of the dogs and foxes. Even its dentition is the same as that elsewhere found (with one other exception, *Proteles*) throughout the group to which we conceive the hyænas to belong, the dental system of which latter appears to be modified in accordance with their much increased and prodigious strength of the jaw.”

This dog weighed about 50 lbs.; it measured 3 feet 1 inch from nose to root of tail; tail, 13 inches; height to the back behind neck, 2 feet 3 inches; fore-leg, 16½ inches; ribs, 13. Teeth: incisors, 6 in each jaw, 12; canines, 4; molars, 10 above and 12 below, = 38. The age of the animal about 2½ years. *Heart* of a rounded form; weight 8 oz.; the parietes of the left ventricle 10 lines in thickness, of
the right 3 lines; the aorta of large calibre, and its coats thick. Lungs, the right four-lobed, the left three; weight 26 oz. Trachea very large. Liver seven-lobed; weight 21 oz. Bile of a dark yellow colour. Gallbladder of moderate size. Spleen about 500 grs. in weight; long, lax, thin and narrow, as in all the Carnaria. It was in the usual situation in this order of animals, viz. on the left of the stomach, to which it was attached by a wide mesenteric fold; the splenic artery and vein long; no valves in the latter. Pancreas small and elongated. Kidney oblong, less concave on its inner side than usual. The stomach of moderate size, and shaped like that of the dog; length 12 inches; this organ with the oesophagus measured 12 feet 6 inches; the caecum, which was in 2½ spiral folds like that of the dog, when unfolded was 5 inches in length; the colon and rectum 1 foot 10 inches; total, 14 feet 9 inches. The caecal valve strong and distinct. The alimentary canal was too much decomposed to allow of my making a microscopical examination of it, but its structure appeared to resemble that of the Dog.

The ribs of the Hyaena are 15; those of the Lycaon 13, as in the Dog, Wolf and Fox.* The teeth of the Hyaena, judging from two skulls in the Museum of the College of Surgeons, are, 4 incisors above, 6 below, 10 molars above, 12 below, canines 4, =36. In the skull of the Striped Hyaena 10 molars in each jaw (one specimen), and in some fossil jaws of this animal the number of molars is less than above quoted; but much, of course, will depend upon the age of the animal. In the Pointer, Blood-hound, Dingo, and other dogs, I found 12 molars above and 14 below, the canines being 4 and the incisors 12. The same with the Wolf and Fox.

The only record I can find of the dissection of a Hyaena is one furnished me by Professor Quekett, and in this animal (30 years old) the alimentary canal measured 39 feet 5½ inches. The account is copied from Professor Quekett's notes. I was at first inclined to suppose that the copyist had made some mistake, the length mentioned being very great for a carnivorous animal. Professor Quekett suggested "that the large quantity of phosphate of lime taken by the hyæna might explain the anomaly."

On referring, however, to the notes of my dissections of four dogs, in which I carefully measured the alimentary canal of all, the above statement does not appear to be so improbable:

Small Terrier, alimentary canal 7 feet 4 inches.
Small Terrier (young), 7 feet.
Blood-hound, 21 feet; including large intestines, 2 feet 2 inches.
Large Mastiff (old), weighing 104 lbs., 31 feet; including large intestines, 3 feet.
Common Fox, 10 feet 6 inches.
Young Indian Wolf (four months old), 6 feet 1 inch.
So that, looking to the ribs, teeth, caecum, length of alimentary canal, and general form of the viscera, this animal must be classed with the Dogs, and not with the Hyaenas.
Additional Remarks on the *Lycaon pictus*.

After the death of the dog, the bitch which was with him became restless, howled frequently, refused her food, and died July 13th, ten days after.

I examined the body a few hours after death. She was about the same size as the dog, and of the same age. She had probably lost 10 or 15 lbs. in weight. The body weighed 31½ lbs., and the subjoined is the relative weight of the viscera, fractions being omitted:

- Heart, 7 oz. \(\frac{1}{2}\).
- Lungs, 24 oz. \(\frac{1}{4}\).
- Liver, 18 oz. \(\frac{2}{5}\).
- Spleen, 790 grs. \(\frac{1}{8}\).
- Pancreas, 370 grs. \(\frac{1}{9}\).
- Kidney, 1080 grs. \(\frac{1}{3}\).
- Alimentary canal, 13 feet 6 inches.

The uterus resembled that of the bitch (*C. familiaris*); the vagina 9 inches in length, the cornua 6 inches each.

But one of the most interesting results of this dissection was the examination of the blood-corpuscles; these were larger than in any carnivorous animal that I have dissected; they measured, the greater part of those examined, about the 3000th of an inch in diameter, being larger than those of Man.

I may add, that I could not discover any morbid lesion in this animal, and that I believe her death was occasioned by the loss of her companion.

Dr. Crisp exhibited the injected heart and large arteries of a Viper (*V. berus*), for the purpose of showing the mode of communication between the aortæ, by way of contrast with the Saurians and Chelonians. The organs of generation (male) were likewise shown, the large comparative size of the testicles, and the great length of the seminal ducts being especially noticed.

Dr. Crisp had formed a table of the length and weight of the body, as well as of the viscera of seven of these reptiles, which he had dissected. The length varied from 19 to 23 inches; the weight from 1 oz. 182 grains to 3 ozs., the females being the largest. In the stomach of one of these reptiles a half-grown frog was found; in the remaining six this viscus was empty.

The proportion the various viscera of this reptile bear to the body is about as follows:—Liver, 30; pancreas, 2140; spleen, 2146; kidney, 59; heart, 178; brain, 1620.

Dr. Crisp stated that he had inserted the poison of the Viper into the bodies of Toads, Frogs, Snakes, Lizards, and several insects, without producing apparently any deleterious effects, but the experiments required repetition. Dr. Crisp believed that he had positive evidence to show that the young of the Viper were sometimes received into the throat of the mother; and the assertion of Pro-
fessor Henslow and others that it was an anatomical impossibility, was entirely disproved by the large size of the œsophagus before the Society.

November 13, 1855.

Dr. Gray, F.R.S., in the Chair.

1. On a new Genus and Species of Trochilidae from Ecuador. By John Gould, F.R.S. etc.

The remarkably fine species of Humming Bird which I am about to describe, I have lately received from Ecuador. This new bird is remarkable for its large size, deeply forked tail and the harmonious hues of its plumage, which, although less glittering and metallic than in many other species, is nevertheless strikingly beautiful. I consider this bird to be new to science, both generically and specifically, and as the name of Victoria regia has been given to one of the finest flowers of the same part of South America, I am desirous of dedicating this new Humming Bird to the Empress of the French, and I accordingly propose to name it Eugenia imperatrix. Its native habitat is the vast Andean forests in the neighbourhood of Quito in Ecuador, where it procures its insect food from the bell-shaped flowers of the Datura.

Genus Eugenia.

Gen. Char. Bill rather lengthened, straight and strong; wings long and pointed; tail lengthened and very much forked, the feathers narrow and rigid; tarsi clothed with feathers nearly to the toes; feet small.

Eugenia imperatrix.

Male. Face and fore part of the neck brilliant grass-green; crown of the head, back, neck, chest and upper part of the flanks very deep-green; on the centre of the throat a gorget of reddish-violet; abdomen and under tail-coverts shining, greenish-yellow; wings purplish brown; tail deeply forked, the feathers black, narrow and rigid; some tufts of white downy feathers across the lower part of the abdomen; thighs brown in front, white behind.

Total length 6½ inches; bill 1¼; wing 3½; tail 3.

Female. Upper surface green; throat, chest and abdomen grayish-white spangled with green, the spangles being very minute on the throat and gradually increasing in size downward to the flanks; tail blackish-brown; tarsi white.

Total length 5½ inches; bill 1½; wing 2¾; tail 2¾.

Hab. Ecuador.

(Aves, Pl. CV. CVI.)

1. Bucco hyperrhynchus. (Pl. CV.)

_B. supræ fulgenti-niger; fronte lata et superciliiis anticiis albis; subtus albus, nigro lato torquatus; lateribus nigro radiatis; rostro maximo._

*Long.* tota 10\(^{1/2}\); ale 4\(^{1/2}\); caudæ 3\(^{1/2}\); rostri a rictu 2\(^{1/2}\).


When I drew up the characters of _Bucco macrorhynchus_, as given in the "Annals of Nat. Hist." for May last (p. 357), I had not in my possession specimens of the true _macrorhynchus_ from Cayenne, and consequently confounded it with the present bird. But the much larger size of the bill and whole body, the greater extension of the white colour on the front, the narrower black band and the total absence of any fawn-coloured tinge on the belly and vent are quite sufficient to distinguish this _Bucco_ from its Cayenne representative.

I have lately ascertained, through the kindness of Prince Bonaparte, that this is the species included under the name _Tamatia hyperrhynchus_ in his _Conspectus Volucrum Zygodacltorum_, published in the "Ateneo Italiano" of May last, and I have therefore adopted his specific designation. But no descriptions have yet appeared of the many new species of which the names only are inserted in that and other similar recent publications of the Prince.

The type specimens of the present bird are in the French National collection.

2. Bucco dysoni.


_B. supræ fulgenti-niger; fronte usque ad oculos et collarì postico albis; subtus albus; vitta pectorali lata nigra; lateribus nigro variis; rostro pedibusque nigris._

*Long.* tota 9\(^{1/2}\); ale 4\(^{1/2}\); caudae 3\(^{1/2}\); rostri a rictu 1\(^{1/8}\).

*Hab.* In America Centrali, Honduras (Dyson). Mus. Brit.

*Obs.* Species _Bucccone macrorhyncho_ fronte latius albo, rostro majore, et ventre pure albo, _a Bucccone hyperrhyncho_ rostro minore et fronte minus albo diversa, et inter has duas media locanda.

A single specimen of this bird in the British Museum was procured by Mr. Dyson in Honduras. In my Synopsis of this family I have confounded it with its near affines, from which I now think, as might have been expected from the locality, it will bear separation. It is very probable that Prince Bonaparte's name, _gigas_ (which was applied to a bird brought by Delattre from Nicaragua), was intended
for this same species, but as the type has disappeared, and no specific characters have been published for the name, it is difficult to be certain on that point.

3. **Bucco pulmentum.** (Pl. CVI.)

*Tamatia* (*Nyctactes*) *pulmentum*, Bp. et Verr. MS.

*B. supra* *fusco-brunneus*; *fronte et superciliis rufoscentibus*; *torque angusto muchali inconspicuo albido*; *dorsi medii alarum uropygique plumis partim fulvo terminatis*; *subtus albus*; *guttura inferiore pallide rufescens*; *plaga utrinque gutturali magna cum maculis crebris pectus totum et ventrem (præcipue ad latera) occupantibus atris*: *roстро nigro*.

*Long.* *tota* 5'-0; *ala* 3'-1; *caudæ* 2'-5.


*Obs.* *Sp.* *Bucconii tamatiae* affinisima, sed *gula pallidiore et maculis ventris majoribus et intensioribus* *differt.*

This appears to be a western representative of the *B. tamatia* of Cayenne, from which, however, I think it may be fairly separated. MM. Verreaux of Paris have lately received a considerable number of specimens of it from the Upper Amazon. They all present the same distinctive characters as are above noticed.

4. **Monasa peruana.**

*Monasa peruana*, Bp. et Verr. MS.

*M. plumbescenti-nigra*, *capite et gutture intensioribus*; *fronte et menti summa parte albis*: *rostro ruberino*.

*Long.* *tota* 11'-0; *ala* 5'-0; *caudæ* 4'-5.

*Hab.* in Peruvia Orientali in regionibus fl. Amazonum superioris: *Chamicurros* (*Hawxwell*). *Mus.* *Joh.* *Gould* et *P.L.S.*

*Obs.* Simillima *M. personata* sed *rostro clarius rubro, mento ad ipsam apicem solum albo haud nisi dubie disjungenda*.

My specimen of this bird was obtained from the MM. Verreaux, and carries the MS. name above quoted, which I have thought it as well to adopt. The characters which separate it from its well-known Brazilian representative are certainly very slight, but appear to be constant in at least a dozen examples I have examined from the same locality.

5. **Bucco picatus.**

*B. supra* *niger*; *plaga in summis scapularibus utrinque magna et maculæ in pileo robundis cum loris albis*: *subtus albus*; *vitta lata pectorali nigra*: *cauda nigra, rectricibus tribus utrinque extinis in medio et harum omnium apicibus albo maculatis*: *rostro pedibusque nigris*.

*Long.* *tota* 6'-7; *ala* 3'-2; *caudæ* 2'-3.

Obs. Species *Bucconi tecto* forsan nimium affinis, et ob crassitiem majorem, torquem pectoris latiorem et caudam minus albo maculatam non sine dubio constitnenda.

Mr. Gould's collection contains two examples of this bird, which he has entrusted to me for comparison with its Cayenne representative. It is not, however, without hesitation that I have determined to separate them from it. Besides their larger size and broader breast-band, the white medial square spot extends in the present species only through the three lateral rectrices, with a slight trace of it in the fourth.

In the Cayenne bird the outer five pairs are all strongly marked thus. The whole plumage of the bird is also generally more intensely black.

6. **Malacoptila nigrifusca.**


*M. nigricanti-brunnea, plumarum scapis pallide fulvis; loris et plumis mystacalibus cum plaga triangulairi super-pectorali albis: ventre medio crissoque fere unicoloribus, albicantioribus; rostri basi late aurantio, apice nigra; pedibus nigricanti-brunneis.*

Long. tota 6·5; alæ 3·5; caudæ 2·5.


This New Grenadian bird, which in my Synopsis of this family and List of Bogota birds I united with the true *fusca* of Cayenne, certainly presents considerable claims for specific distinction. The body is generally smaller, the bill in particular is shorter and not so strong, and at the base is of a deep orange colour instead of pale yellow, the black not extending so far towards the base of the upper mandibles; also, the markings on the head, throat and breast are much blacker, and I have therefore named the bird *nigrifusca*. There are specimens of it in the British Museum and in Mr. Gould's collection.

The East Peruvian or High-Amazon examples on the other hand (which are held distinct by some naturalists under Du Bus' title *inornata*) resemble the Cayenne bird much more nearly. After remarking that the white lore-spot is nearly obsolete, and the skins are rather finer and larger, it is in truth difficult (at least with my present examples) to see further differences, and I therefore regard *M. inornata* as a very doubtful species.

Rio Napo specimens are still more like the true *fusca*. 
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3. On some New Species of Freshwater Tortoises from North America, Ceylon and Australia, in the Collection of the British Museum. By Dr. J. E. Gray, F.R.S., F.R.G.S. etc.

Fam. I. Emydidae.

The freshwater Tortoises which have been referred to the genus Emys, as it is at present constituted, may be divided into two very distinct genera; and this is the more advisable as it is extremely difficult to distinguish the American species of which it is composed, and the separation of any of them by organic characters must facilitate the process. The genera may be thus named and defined:—

1. Emys.

The lower jaw rounded beneath, and covered with, the hinder part of the horny beak; the toes strong, covered with broad band-like scales.

This genus includes E. ornata, E. scripta, E. Holbrookii, and many other species, both Asiatic and American.

2. Pseudemys.

The lower jaw flattened beneath and covered with a soft skin. The toes weak, slender, covered with small scales above, and very broadly webbed.

1. Pseudemys concinna.
2. P. serrata.

The genera Batagur and Malaclemys have nearly similar feet, and they appear, like Pseudemys, to be the most aquatic animals of the family.

The species which have hitherto been referred to the genus Cistudo differ considerably in their habits, some being nearly terrestrial and others almost exclusively aquatic. The examination of the animal shows that there are good external characters by which they may be divided into natural groups agreeing with their habits and their geographic distribution.

1. The more terrestrial have the front of their legs covered with thick, imbricate, triangular scales, the toes only slightly webbed, and the sternum broad, hiding the legs when withdrawn, as—

1. Cistudo.

The head rhombic, the forehead flat, and eyes lateral: confined to N. America; as C. Carolinensis, with four, and C. Mexicana, with only three toes on the hind feet.

2. Lutremys.

The head oblong, depressed, with the eyes on the upper part of the cheek. Found in Europe, as L. Europea.
II. The more aquatic kinds have the front of the legs covered with small scales and some broad, transverse, lunate plates; the toes webbed. They are confined to Asia; as

3. **Cuora.**

The head rhombic, the eyes lateral, the sternal lobes broad, hiding the legs when contracted, as *C. Amboinensis* and *C. trifasciata*.

4. **Cyclemys.**

The head depressed, eyes subsuperior, the sternal lobes rather narrow, not hiding the legs when contracted, as *C. dentata* and *C. platynota*. The latter species was referred to the genus *Testudo* by F. Müller, and when I first described it I considered it as an *Emys*, but the examination of a series of specimens of different ages shows that it is a species of Box Tortoise nearly allied to *C. dentata*.

It has been hitherto believed that there was only a single species of the genus *Kinosternon*, as now restricted, found in the United States; and all the adult specimens I have received from that country are, I must own, exceedingly alike, so much so that I cannot undertake to say that we have adult specimens of more than a single species. On examining the young specimens of this genus from the United States, in the Museum Collection, it is evident that there are at least three most distinct species found in that country, which probably in their eroded and discoloured adult state are so alike as to be mistaken for one another.

They may be thus described:—

1. **Kinosternon Pensylvanicum.**

   Head brown-dotted; temples with two parallel distant streaks of white spots, from the upper and lower edge of the orbit, and a third streak across the lower jaw; neck white-dotted; back deep brown; lower side of marginal shields, the axillary and inguinal plates and each of the sternal plates with a large yellow spot; sternum broad, rounded before and behind.


2. **Kinosternon Hippocrepis.**

   Head brown, with a broad white streak on each side, from the end of nose over the eyebrows to the sides of the nape; back pale and sternum brown; dorsal shield with a single apical and some scattered black spots; under side of each marginal and sternal plate rather paler in the middle; sternum rather broad, rounded in front and slightly truncated behind.


3. **Kinosternon Punctatum.**

   Head brown, minutely white-dotted, without any streaks; the back brown, discal shield with a very distinct apical, and some scattered black spots; margin with a very narrow white line; under side whitish,
with minute scattered black dots and line; sternum narrow, con-
ttracted at each end, and with straight sides behind, rather truncated
in front and more distinctly and broadly so behind.

Hab. North America.

There are several specimens of the first species of different ages,
from various parts of the States, in the British Museum; I have
therefore retained for it the more general name; and two young
specimens and a half-grown one of the second species, and only a
single young specimen of the third species; the latter is so distinct,
by the narrow form of its sternum, from the other two, that it might
be referred to the genus Aromochelys if the pectoral plates were not
triangular; it may be considered as the species passing towards
that genus, and I should think that the adult animal must differ
considerably from the common form of K. Pensylvanicum.

Aromochelys.

The Musk Tortoise, or, as it is more commonly called, the Stinkpot of
North America, is easily distinguished from the other Kinosterna by
the narrowness of the sternum and the humeral plates being square,
like the pectoral one, instead of triangular, as they are in K. scor-
poides and K. Pensylvanicum. For this reason I have proposed to
divide them into a distinct group under the name of Aromochelys.

I am the more inclined to do so, as there are two most distinct
species in the British Museum Collection, which have either been
confounded together by the American naturalists, or have been most
unaccountably overlooked. They may be thus defined:—

1. Aromochelys odorata.

Head moderate, with two streaks from the nose, one above and
the other under the eyes, to the side of the neck; the back oblong-
convex, the vertebral line rather flattened; the gular plate small,
triangular, the humeral plate rather oblique, shield brown, purple-
brown spotted.

Holbrook, N. Amer. Herpet. t. 22.

Hab. United States and Louisiana.

2. Aromochelys carinata.

We have four specimens of this species in the Museum Collection.
Cat. Tortoises B.M. t. 20 a.

Head very large, black-dotted, without any lateral streaks; back
oblong, very high, the vertebral line high and acutely keeled the
whole length, shields grey-brown, spotted and lined with purple-
brown; the gular plate very small, linear, transverse marginal, the
humeral plate square, transverse, parallel to the pectoral plates.

Hab. North America, Louisiana.

There are two species of North American Tortoise which are re-
ferred to the genus Chelydra, which are so differently organized
that they are evidently the types of two very distinct genera, which
may be thus characterized:—
1. **Chelydra.**

Head moderate, rather depressed, covered with a soft skin, chin bearded, neck granular; back with two slight keels; marginal plates in a single series.

*Chelydra serpentina.*

2. **Macrochelys.**

Head large, angular, contracted in front, covered with symmetrical horny plates, neck with several series of spinose warts; back with three sharp continued tubercular keels; the lateral marginal plates in a double series.

*M. Temminckii.*

**Fam. II. Chelydidae.**

When Australia was first visited by Sir Joseph Banks, he brought home with him from New Holland a freshwater Tortoise, which Dr. Shaw described under the name of *Testudo longicollis.* This has been made the type of the genus *Chelodina.* Recent travellers in Australia have shown that the genus is distributed over the country; each part appears to have a species peculiar to itself. In Capt., now Sir George Grey's Travels, I described and figured a species from Western Australia under the name of *Chelodina oblonga.* In a collection which we have lately received from Haslar Hospital, there are two very large specimens of the genus sent from Swan River by the late Mr. Collie, which, though similar in several respects to *Chelodina oblonga,* may be considered as a distinct species, which I shall proceed to shortly characterize.

The species of the genus hitherto described have the thorax covered with very thin smooth shields, so transparent that a peculiar black reticulated appearance, which exists between the shields and the bones of the thorax, can be distinctly seen through them. This character is common to *C. longicollis* of New Holland, *C. oblonga,* and Mr. Collie's species from Swan River, which I propose to call, in honour of my late friend and excellent collector—

1. **Chelodina Colliei.**

The shield oblong, elongate, contracted and revolute on the sides; under side uniform pale yellow.


This species agrees with *C. oblonga* in the uniform colour of the back and sternum, which is only varied by the dark lines of the netted appearance before referred to; but it is easily known from that species by its larger size, the much narrower shape, and the lateral margin becoming strongly revolute, and the edge over the hinder limb raised up and rather expanded.

The British Museum have lately received, with some other specimens, from the Australian continent—but unfortunately the special habitat was not indicated—the shell of a Tortoise which has all the characters of the genus as at present defined, except that, instead of
the shields on the thorax being thin, submembranous and semitransparent, they are thick, horny and concentrically grooved like the shields of many other genera. It is not accompanied by the head or limbs of the animal, so we have not the means of determining if they offer any characters which, with the peculiar structure of the shell, might render it desirable to form it into a separate genus. It may be defined and thus named:

2. Chelodina sulcata.
Shell depressed, roundish ovate, brown; shield horny, thick, distinctly concentrically grooved.
Hab. Australia.

Fam. III. Trionycidæ.

The species of this family, which have the hind legs covered with moveable flaps affixed to the sides of the hinder lobe of the sternum, named Cryptopus by MM. Dumeril and Bibron, may be divided into two very distinct geographic genera.

1. Emyda, Gray.
The margins of the upper shield strengthened with bones; the sternum with three pairs of callosities and a small odd one behind the anterior pair. Asia.

2. Cyclanosteus, Peters.
The margin of the upper shield flexible, without any bones; the sternum with four pairs of callosities and an odd one behind the two anterior pairs; the pair on the hinder lobes small, far apart. Africa.

It has been usually stated that the only known species of the genus Emyda was generally distributed over India; we have in the British Museum specimens only from the Valley of the Ganges. The young specimens all agree in the head and shell being variegated.

We have lately received a specimen of this genus from Ceylon, collected by Mr. Thwaites, which differs in both the above particulars; and in the Museum of the Society there is the shell of an adult animal, sent home from Ceylon by Dr. Kelaart, which shows that it is a most distinct species. They may be thus characterized:

1. Emyda punctata.
Back and upper part of the head pale spotted; the odd anterior callosity small, roundish triangular; the hinder callosity of adult ovate, inner edge semicircular; of young triangular, far apart.
Hab. India, Ganges.

2. Emyda ceylonensis.
Back and upper part of the head (in spirits) dull pale olive; lips, chin and lower part of the body whitish. The odd anterior sternal
No. CCXCVII.—Proceedings of the Zoological Society.
tubercle large, oblong, transverse; the hinder pair of callosities large, close, in adult nearly united, with straight parallel inner edges.


Hab. Ceylon.

Dr. Kelaart, in his work on the Ceylon animals, was not aware of the distinctness of this animal from the continental species; he observes that the head is black-lined when alive.

The new species described in this paper will be figured in the Illustrated Catalogue of Tortoises in the Collection of the British Museum, which will shortly be published.

4. **Descriptions of Twenty-three New Species of Achatinella, collected by Mr. D. Frick in the Sandwich Islands; from Mr. Cuming’s Collection.**

By Dr. L. Pfeiffer.

**Sect. Bulimella.**

1. _A. nobilis_, Pfr.  _A. testa subimperforata_, dextrorsa, turrita, solida, striatula, nitida, fulvida vel griseo-virente, saturatius strigata; spira exacte conica, apice alba, acuta; sutura leviter marginata; anfr. 6½—7 planiusculis, ultimo ¾ longitudinis sub-æquante, infra medium obsolete subangulato; apertura obliqua, obauriformi, intus alba; perist. expansusculo, margine dextro intus late labiato, columellari subadnato.

Long. 23, diam. 11 mill.

Hab. Oahu.

2. _A. hanleyana_, Pfr.  _A. testa subrimata_, dextrorsa, globoso-conica, solida, laevigata (sub lente exilissime spiraliæ striata), nitida, fulva, castaneo-radiata; spira conica, apice minuto, corneo; sutura filo crenulato marginata; anfr. 6, superis planis, sequentibus modice convexis, ultimo spiram feræ æquante, rotundato; apertura obliqua, truncato-auriformi, intus alba; plica colum. supera, valida, dentiformi; perist. intus labiato, margine dextro breviter reflexo, columellari dilatato, calloso, subadnato.

Long. 18, diam. 11 mill.

**Sect. Newcombia.**

3. _A. zebrina_, Pfr.  _A. testa imperfecta_, dextrorsa, tenuissi-culo, laevigata (sub lente minutissime decussata), nitida, albida, strigis fulgurantibus nigro-castaneis elegantissme picta; spira subturrita, apice obtusa, fusca; sutura filomarginata; anfr. 5 modice convexis, ultimo ¾ longitudinis feræ æquante; apertura vix obliqua, truncato-oblonga, intus lilacina; plica colum. supera, torta, callosa, vix prominente; perist. sim-plice, recto, fusco-limbato.

Long. 12½, diam. 6 mill.
4. *A. chlorotica*, Pfr. *A. testa subperforata, ovato-conica, solida, ruguloso-striata, albida, epidermide virente strigatim variegata; spira conica, acutiuscula; anfr. 6, superis convexiusculis, penultimo turgido, ultimo \( \frac{1}{2} \) longituninis subaequante, rotundato; apertura obliqua, truncato-ovali, intus alba; plica colum. supera, levissima, fere nulla; perist. simplice, recto, margine colum. parum dilatato, sublubero.
Long. 18, diam. 10\( \frac{1}{2} \) mill.

Sect. LAMINELLA.

5. *A. Ferussaci*, Pfr. *A. testa sinisterosa, perforata, turrita, solida, subruditer striata, nuda, coccinea; spira elongata, subconavo-conica, apice fusca, obtusiuscula; sutura profunda, subcrenata; anfr. 7\( \frac{1}{2} \), superioribus planiusculis, sequentibus convexibus, ultimo globoso, \( \frac{1}{3} \) longituninis non aequante; apertura diagonalis, sinuato-secundariis; columnella distincte bicipitata; plica supera obliqua, obtusa, altera compressa, illi subparallela; perist. nigro-limato, margine externo recto, acuto, columnellari dilatato, patente.
Long. 24, diam. 11 mill.
Haä. Oahu.

6. *A. albida*, Pfr. *A. testa perforata, ovato-turrita, tenui, irregulariter striata, albida, epidermide pallide fulvescente strigulata; spira conica, apice acutiuscula; sutura levissime crenulata; anfr. 6, superis planis, sequentibus convexioribus, ultimo \( \frac{1}{2} \) longituninis vix aequante, rotundato, peripheria obsoletae subangulata; apertura parum obliqua, sinuato-ovali; plica supera obliqua, obtusa, altera compressa, illi subparallela; perist. nigro-limato, margine externo recto, acuto, columnellari dilatato, patente.
Long. 17, diam. 9\( \frac{1}{4} \) mill.

7. *A. inflata*, Pfr. *A. testa imperforata, conico-globosa, subruditer striata, albida, epidermide nigra infra suturam late fasciatim detrita obducta; spica inflata, in conum brevem, acutum terminata; anfr. 5\( \frac{1}{2} \), ultimis 3 perturgidis, ultimo spiram aequante; apertura obliqua, sinuato-ovali, intus alba; plica colum. subtransversa, alte ascendente, perist. recto, intus labiato, margine colum. dilatato, calloso, adnato.
Long. 16\( \frac{1}{2} \), diam. 10 mill.

8. *A. goniostoma*, Pfr. *A. testa rimata, dextrorsa, turrita, solida, oblique striatula, sub epidermide decidua fulva carneo-grisea; spira elongato-conica, apice acuta; sutura subcrenata; anfr. 8 planiusculis, penultimo convexitore, ultimo \( \frac{1}{3} \) longituninis vix superante, rotundato; apertura obliqua, elliptica, utrinque angulata; plica colum. subbasali, compressa, obliqua; perist. recto, basi producta, marginibus callo junctis, dextro intus sublabiato, columnellari subdilatato, adnato.
Long. 16, diam. 7\( \frac{1}{2} \) mill.
9. A. extincta, Pfr. A. testa perforata, ovato-turrita, solida, striatula, cretacea; spira elongata, sursum attenuata, acuta; anfr. 7 vic convexiusculis, ultimo $\frac{1}{3}$ longitudinis non attingente, juxta perforationem subcompresso; apertura vix obliqua, rhombo-ovali, basi angulata; plica column. compressa, fere a basi ascendente; perist. simplice, recto, marginibus callo crasso, subnodiferi junctis, columnellari dilatato, libero.
Long. 16, diam. 7\$\frac{1}{2}$ mill.
Subfossilis lecta in insula Oahu.

10. A. transversalis, Pfr. A. testa subrimata, ovato-conica, solida, confertim striata, lineis spiralibus impressis distantibus subdecussata, nigro-rufa, epidermide fulvo-grisea, guttatim et fasciatim interrupta, obducta; spira inflato-conica, acuta; anfr. 6 convexiusculis, ultimo $\frac{2}{3}$ longitudinis subaequante; apertura parum obliqua, sinuato-ovali; plica column. laminaeformi, subbasali, fere transversa; perist. recto, intus albido vel roseo tenuiter labiato.
Long. 12, diam. 6 mill.

11. A. grossa, Pfr. A. testa imperf., dextr., conico-ovata, solida, subruditer striata, castanea; spira ovato-conica, apice acuta, nigrant; sutura pallida, crenulata; anfr. 7, summis planis, levigatis, sequentibus sensim convexioribus, ultimo $\frac{3}{4}$ longitudinis subaequante; apertura obliqua, sinuato-semiovali, intus alba; plica column. laminaeformi, subtriangulari, fere transversa; perist. recto, acuto, marginitibus callo albido junctis, dextro intus sublabiato, columnellari adnato.
Long. 23, diam. 11 mill.

12. A. luctuosa, Pfr. A. testa imperf., dextr., oblongo-conica, solida, striatula, nitidula, bicolore; spira inflato-conica, apice acuta; sutura crenulata; anfr. 6, summis 4 nigris, subplanis, penultimo pallido, convexiore, ultimo $\frac{3}{4}$ longitudinis subaequante, superne pallide fulvescente, infra peripheriam nigrant; apertura parum obliqua, sinuato-semiovali, intus alba; plica column. laminaeformi, subbasali, triangulari; perist. recto, acuto, nigro-limato.
Long. 16, diam. 8 mill.

13. A. grayana, Pfr. A. testa imperf., dextr., ovato-conica, solidula, nitidula, griseo-carnea, fasciis castaneis deorsum evanescentibus varie picta; spira inflato-conica, apice acuta, nigra; anfr. 6\$\frac{1}{2}$, superis planis, radiato-plegatis, penultimo convexo, ultimo spiram fere aequante, leviter striato; apertura subverticali, acuminato-ovali; plica column. mediana, subtransversa, triangulari; perist. simplice, recto, margine column. vix dilatato, adnato.
Long. 21\$\frac{1}{2}$, diam. 12 mill.

14. A. glutinosa, Pfr. A. testa imperf., dextr., ovato-conica, solidula, arcuata, striatula, sub epidermide glutinosa, lutescente alba; spira subregulariter conica, apice obtusa; sutura lev,
crenulata; anfr. 7 planiusculis, ultimo spira vix breviore, basi rotundato; apertura subverticali, sinuato-semiövali, intus alba; plica colum. compressa, torta, fere transversa; perist. recto, marginibus callo junctis, dextro sublabiato, columellari calloso, reflexo, adnato.
Long. $11\frac{3}{4}$, diam. 6 mill.

15. **A. umbilicata**, Pfr. **A. testa angustissime sed aperte umbilicata, dextr., ovato-conica, tenue, striata, opaca, fusca; spira concaviusculo-conica, apice acuta; anfr. 6 vix convexiusculus, ultimo spira paulo breviore, basi angulato; apertura elliptica, utrinque angulata; plica colum. compressa, profunda, subtransversa; perist. simplex, acute, margine colum. subdilatato, omnino libero.
Long. 10$\frac{3}{4}$, diam. 5$\frac{3}{4}$ mill.

*Sect. Achatinellastrum.*

16. **A. clementina**, Pfr. **A. testa imperfecta, dextr., ovato-conica, solida, sublävigata, nitida, virenti-fusca, infra suturam lutescenti-fasciata: spira regulariter conica, obtusa; sutura castanea, impresso-marginata, crenulata; anfr. 6 superne turgidulis, ultimo $\frac{3}{4}$ longitudinalin subaequante; apertura obliqua, truncato-auriformi, intus alba; plica colum. supera, mediocri, alba vel carnea; perist. recto, marginibus callo junctis, dextro substricto, intus incrassato-labiato, columellari dilatato, adnato.
Long. 19, diam. 10 mill.

17. **A. cuneus**, Pfr. **A. testa imperfecta, sinistr., oblongo-turrita, solida, striatula, nitida, albida vel lutescente, fasciis angustis fusciis varie ornata; spira conveuo-conica, apice alba, acutiuscula; sutura filo castaneo marginata; anfr. 6 planiusculus, ultimo $\frac{1}{4}$ longitudinalinis paulo superante; apertura fere diagonalis, semiövalis, intus alba; plica colum. mediocri, oblique subtorta; perist. acute, intus labiato, margine columellare adnato.
Long. 18, diam. 8 mill.

*Sect. Amastra.*

18. **A. irregularis**, Pfr. **A. testa imperfecta, dextr., tenuiuscula, longitudinaliter confertim plicata, nigricante, interdum albido-fasciata; spira irregulari, conica, obtusa; sutura subcrenata; anfr. 5$\frac{1}{4}$ celeriter accrescentibus, convexis, penultimo gibbo, ultimo $\frac{1}{2}$ longitudinalinis subaequante, infra medium laeviore, interdum corneo; apertura vix obliqua, ovali-oblonga; plica colum. supera, parum prominenti; perist. simplex, margine dextro antrosum subarcuato, columellari dilatato, adnato.
Long. 9, diam. 4$\frac{1}{8}$ mill.

*Sect. Leptachatina.*

apice obtusula; sutura levii, subcrenulata; anfr. 6½ planiusculis, ultimo spira paulo breviore, a medio ad basin pallide corneo; apertura vix obliqua, sinuato-ovali, intus concoleore; plica colum. callosa, subobliqua; perist. albo, recto, intus labiato, margine colum. angusto, adnato.

Long. 11, diam. 5½ mill.

β. Anfractu ultimo unicolor castaneo, spira pallidiore.

20. A. semicostata, Pfr. A. testa subumbilicata, dextr., turrita, solidula, confertim costata, nitida, castaneo-cornea; spira elongata, convexo-conica, obtusula; sutura impressa; anfr. 8½ parum convexis, ultimo ½ longitudinis vix aequante, infra medium lavigato, pallido, attenuato, basi saccato-compressa; apertura parum obliqua sinuato-oblonga; plica colum. lata, obliqua, alba; perist. simplex, recto, margine colum. reflexo, omnino patente.

Long. 9½, diam. 4 mill.

21. A. teres, Pfr. A. testa imperf., dextr., cylindraceo-oblonga, tenuiuscula, leviter striatula, nitidissima, cornea; spira sensim attenuata, apice obtusula; sutura crenulata, suture castanea, in anfractu ultimo impresso-marginata; anfr. 7 planiusculus, ultimo ½ longitudinis paeulo superante, antice subascendente; apertura subobliqua, sinuato-semiovali; plica colum. subcallosa, torta, obliqua; perist. simplex, recto.

Long. 10, diam. 4 mill.

22. A. oryza, Pfr. A. testa subrimata, fusiformi, striatula, cornea (?); spira convexo-conica, apice obtusula; sutura levii, simplice; anfr. 7 vix convexiusculus, ultimo ½ longitudinis subaequante, basi attenuato; apertura vix obliqua, acuminato-ovali; plica colum. subcompressa, acuta; perist. simplice, recto, margine colum. subrefexo, adnato.

Long. 8, diam. 3½ mill.

Hab. Subfossili in insula Oahu.

23. A. margarita, Pfr. A. testa subrimata, dextr., ovato-oblonga, tenui, striatula, pellucida, pallide cornea; spira ovato-conica, obtusula; sutura submarginata; anfr. 6, superis planiusculus, penultimo convexiore, ultimo ½ longitudinis subaequante, basi subattenuato; apertura subverticali, elliptico-ovali, basi subangulata; plica colum. mediana, parvula, dentiformi; perist. simplice, recto, albido-limbato.

Long. 6½, diam. 3 mill.

Sect. Auriculella.

To this section may be referred:—


25. Achatinella obeliscus, Pfr. (Balea Newcombi, Pfr. Mon.)
5. Descriptions of Sixteen New Species of Achatinella, from Mr. Cuming's Collection, collected by Dr. Newcomb in the Sandwich Islands.

By Dr. L. Pfeiffer.

1. A. dwighti, Newc. A. testa perforata, sinistrorsa, solida, oblongo-conica, ruditer striata, striis confertis spiralibus decussata, fusculo et albo variegata s. marmorata; spira conica, obtusa; anfr. 6½ planiusculus, ultimo spira paulo breviore; apertura obliqua, obauriformi; plica columnellari obliqua, levi; perist. albo, intus erasse labiato, margine externo expanso, columnellari dilatato, calloso, subslibero.

Long. 24, diam. 11½ mill.

Hab. Molokai.

2. A. maniensis, Newc. A. testa subperforata, ovato-oblonga, tenuiscula, longitudinaliter irregulare striata, sub lente striis spiralibus confertissimis decussata, haud nitente, albida, strigis fusco-corneis serratis variegata; spira regulariter conica, apice obtusa; sutura levi, vix submarginata; anfr. 5½ planiusculus, ultimo 2½ longitudinis subaequante, basi subattenuato; apertura parum obliqua, oblonga; plica column. obsoleta; perist. simplice, recto, fusco-limbato, margine column. fornicatim reflexo, subslibero.

Long. 13, diam. 6 mill.

Hab. Mani.

3. A. tetrao, Newc. A. testa subperforata, sinistrorsa, globoso-conica, pallida, infra suturam late rubro-fusiaca, undique epidermide virente-fusca dense reticulata; spira conica, acutiscula; anfract. 6½, summis subplanis, reliquis perconvexis, ultimo globoso, spira paulo breviore; apertura obliqua, semiovali, intus alba; plica column. laminaeformi, subobliqua; perist. simplice, recto, acuto, margine column. roseo, subslibero.

Long. 16, diam. 8½ mill.

Hab. Rana'i.

4. A. remyi, Newc. A. testa subimperforata, sinistrorsa, oblonga-conica, plicatula, rubella, lineis fulyuratis fuscis amene variegata; spira elongata, apice nigricante, acuta; anfr. 7modice convexus, ultimo ½ longitudinis vix superante; apertura fere diagonalis, sinuato-ovali, intus purpurascence; plica column. parum prominentis, subduplicata; perist. simplice, recto, acuto, margine column. rubro, subslibero.

Long. 17¼, diam. 8 mill.

Hab. Hawaii.

5. A. humilis, Newc. A. testa subperforata, oblongo-conica, solidula, subruuditer striata, griseo-carnea; epidermide nigra fere omnino obducta; spira convexo-conica, apice nigra, acuta; anfr. 6½ infra suturam turgidis, medianis pallide reticulatis, ultimo ½ longitudinis paulo superante; apertura parum obliqua, sinuato
ovali, intus livide purpurascence; plica colum. mediocri, compressa, obliqua; perist. simplice, recto, acuto, margine colum. dilatato, reflexo, subadnato.

Long. 18, diam. 8 f mill.

Hab. Molokai.

6. A. petricola, Newc. A. testa subperforata, dextrorsa, ovatoconica, tenuiuscula, striatula, fusca; spira convexo-conica, acutiuscula; sutura levi; anfr. 5 f convexiusculus, ultimo 3⁄4 longitudinis subaequante; apertura parum obliqua, sinus-ovali, intus concolor; plica colum. tenui, compressissima, parum obliqua; perist. simplice, recto, intus albo limbato, margine colum. reflexo, subpatente.

Long. 9 f, diam. 5 mill.

Hab. Modonai.

7. A. Dunkeri, Cuming, MSS. A. testa Imperforata, oblongo-turrita, solidiuscula, levigata, pallide carnea, strigis confertis fusculis ornata, lineis 1 vel 2 nigris sepe cincta; spira turrita, apice acutiuscula, alba; sutura leviter marginata, pallida; anfr. 6 f vix convexiusculus, ultimo 3⁄4 longitudinis fere æquante; apertura obliqua, truncato-auriformi; plica colum. alba, valida, dentiformi, subsulcata; perist. recto, acuto, pone limbum fusculum albo labiato.

Long. 24, diam. 11 mill.

8. A. fulva, Newc. A. testa subperforata, turrito-conica, solida, striatula et sub lente subtilissime decussata, nitida, luteo-fuclca; spira subconcavo-conica, apice alba, acuta; sutura filomarginata; anfr. 6 f, superis planis, sequentibus convexis, ultimo 3⁄4 longitudinis paulo superante, infra suturam turgido, basi saccto; apertura obliqua, subtetragono-auriformi; plica colum. supera, nodiformi, aurantiaca; perist. recto, intus labiato, margine dextra substricto, columellari dilatato, fornicato-reflexo.

Long. 18 f, diam. 9 mill.

9. A. oviformis, Newc. A. testa sinistrorsa, imperforata, ovatoconica, solida, striatula, sub epidermide nitida, olivacea alba, fusco 1–3 fasciata; spira convexo-conica, apice acutiuscula, alba; sutura profunde marginata; anfr. 5 vix convexiusculus, ultimo 3⁄4 longitudinis subaequante; apertura fere diagonali, auriformi; plica colum. mediocri, dentiformi, rubella; perist. recto, marginibus callo tenui junctis, externo intus labiato, columellari dilatato, adnato.

Long. 17, diam. 8 f mill.

Hab. Oahu.

10. A. undulata, Newc. A. testa sinistrorsa (varius dextrorsa), imperforata, solida, striatula, nitida, fulva, strigis undulatis fuscis vel nigro-castaneis picta; spira conica, apice acuta, alba; sutura marginata; anfr. 5 f modice convexis, ultimo 3⁄4 longitudinis subaequante, latere subcompresso; apertura fere diagonali, obauri-
formi, intus alba; plica colum. valida, dentiformi; perist. simplice, recto, fusco-limíbato.

Long. 16, diam. 9 mill.
Hab. Oahu.

11. A. nigra, Newc. A. testa imperforata, globosa-conica, tenuiuscula, confertim striata, albida, epidermide nigrante fere omnino obducta; spira concavo-conica, apice acuta; anfr. 6, superis planis, penultimo convexo, ultimo spiram subcequante, inflato, plicis spiralibus irregulariter minuto; apertura obliqua, sinuato-ovali; plica colum. subtransversa, lingueformi; perist. recto, acuto, intus tenuiter labiato, marginibus callo tenui conjunctis, columellari obsoleto.

Long. 17, diam. 10½ mill.
Hab. Mani.

12. A. pulla, Newc. A. testa imperforata, acuminato-ovata, solidida, distincte striata, lutescente, epidermide fusca varie fasciata, vel praeter fasciam pallidam omnino obducta; spira inflata, versus apicem acutum attenuata; sutura pallida; anfr. 6, primis planis, penultimo modice convexo, ultimo ⅔ longitudinis subcequante; apertura parum obliqua, sinuato-obtuta; plica colum. obliqua, compressa, violetaeo-submarginata; perist. simplice, recto, intus tenuiter albido-labiate.

Long. 11, diam. 6 mill.
Hab. Ranai.

13. A. succincta, Newc. A. testa imperforata, ovata, tenuiuscula, dense striolata, pellucida, cornea, linea sutralis et fascia lata fuscescentibus ornata; spira ventroso-conica, obtusula; anfr. 6½ vix convexiusculis, ultimo ⅓ longitudinis subcequante, basi lavigato; apertura vix obliqua, sinuato-ovali; plica colum. obliqua, compressa, violaceo-submarginata; perist. simplice, recto, intus tenuiter albido-labiate.

Long. 13, diam. 6½ mill.
Hab. Wahai.

14. A. elevata, Newc. A. testa imperforata, oblongo-turrita, solidula, longitudinaliter (ad suturam distinctius) striata, nitida, corneo-lutea, castaneo-bifasciata; spira turrita, apice obtusa; anfr. 8 planiusculis, ultimo ⅔ longitudinis subcequante, basi attenuato; apertura verticali, elliptico-ovali; plica colum. compressa, obliqua, pallide lilacea; perist. recto, obtuso, marginie dextro antrorsum subdilatato.

Long. 11¾, diam. 4½ mill.

15. A. obtusa, Newc. A. testa imperforata, oblonga, sublaevigata, nitida, pellucida, castaneo-cornae; spira cylindrico-turrita, apice obtusa; sutura submarginata; anfr. 6½ subplanulatis, ultimo ⅔ longitudinis subcequante; apertura verticali, acuminato-ovali, basi subangulata; plica colum. levii, obliqua; perist. simplice, recto, pallide limbato, marginibus callo tenui conjunctis.

Long. 10, diam. 4 mill.
16. A. apicata, Newc. A. testa imperforata, globoso-conica, solida, laevigata, nigriceante vel fusca, pallide irregulariter radiata et subfasciata; spica conica, apice acutiuscula, cinnamomea vel hepatica; anfr. 6, superis planox, penultimo convexo, ultimò glo- boso, $\frac{2}{3}$ longitudinis vix æquante; apertura obliqua, subtetragonovali; plica column. supera, dentiformi, lilacea; perist. recto, intus lilaceo-labiato, margine column. perditatato, incrassato, adnato.
Long. 18½, diam. 12 mill.


By Dr. L. Pfeiffer.

1. Leptopoma lowi, Pfr. L. testa perforata, globoso-turbinata, tenui, sub lente confertissime spiraliter striata, pellucida, fulvo- cornea, ad suturam fascia alba subopaca ornata; spira turbinata, acuta; anfr. 5 convexus, medianis liris nonnullis obsoletis notatis, ultimo rotundato; apertura obliqua, subcirculare, intus margari- tacea; perist. albo, subrectangulare expanso, marginibus callo tenuissimo junctis, columellari superne subexciso.
Diam. maj. 14, min. 12, alt. 11 mill.

β. Minor, anfr. ultimo conico-variegato, medio albido-subfasciato. Hab. Isle of Labuan (Mr. Hugh Low).

2. Plecotrema bicolor, Pfr. Pl. testa subumbilicata, ovatoconica, solida, spiraliter confertim sulcata, rugulis longitudinalibus irregulariter tuberculosa, vix nitida, brunnea, pallide fasciata; spira convexiusculo-conica, apice pallida, acuta; anfr. 9 vix convexiusculis, ultimo spira paulo longiore, superne turgidulo, basi attenuato, circa perforationem non perviam compresso, antice crista elevata munito et contracto; apertura vix obliqua, oblonga; plicis parietalibus 2 parallelis, inferiore extus breviter bicruri; plica column. parvula, transversa; perist. vix patulo, marginibus callo junctis, dextro bidenticulato.
Long. 6, diam. 3½ mill.
Hab. Port Jackson (Mr. Strange).

3. Clausilia blandiana, Pfr. Cl. testa non rimata, fusiformi- turrita, solidula, oblique obsolete striata, diaphana, cornea; spira turrita, obtusa; sutura levi, rufo marginata; anfr. 9 regulariter accrescentibus, param convexis, ultimo angustato, deorsum pro- tractus, basi rotundato, antice rufescence, distinctius striato; apertura oblique piriformi-circulari; lamellis convergentibus, superiore valida, marginali, altera conspicua, tenuiore; lunella distincta, angusta; plica palatali 1 supera, ad lamellam superiorem pro- ducia; subcolumellari inconspicua; perist. albo, tenui, expanso et reflexiusculo, margine sinistro angustiore.
Long. 19, diam. 4½ mill.
Hab. Santa Fé de Bogota, Columbia.
4. **Achatina sculpta**, Pfr. *A. testa conico-oblonga, solida, plicis longitudinalibus subarcuatis validis sculpta, straminea; spiræ regulariter attenuata, obtusa; anfr. 8 planiusculis, ultimo \(\frac{1}{3}\) longitudinis paulo superante, antice subascendente; apertura subverticata, obliqua; columella breviter arcuata, oblique truncata; perist. simplex, recto, margine dextro antrorsum subarcuata, colu- lumellari tenuiter calloso.**

Long. 8½, diam. 3½ mill.

*Hab.* Oahu, Sandwich Islands (Mr. Frick).

5. **Achatina comorensis**, Pfr. *A. testa ovato-turrita, solida, leviter et irregulariter striatula, sub epidermide decidua, fulva alba; spiræ elongata, apice obtusa; anfr. 7, superis subplanis, penultimo convexiorem, ultimo \(\frac{1}{3}\) longitudinis paulo superante, basi subattenuato; apertura subverticála, elliptica, basi subcirculari, columella ad basin aperturæ protractæ, oblique subtruncata; perist. obtuso, marginibus callo crassiusculo junctis.

Long. 3½, diam. 13 mill.

*Hab.* Comoro Islands.

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Nov. 27th, 1855.

Dr. Gray, F.R.S., in the Chair.

The following papers were read:

1. **On a new Species of Somateria, and the Female of Lampronetta Fischeri, Brandt.** By G. R. Gray, F.L.S., etc.

(Aves, Pl. CVII.—CVIII.)

I have the pleasure of exhibiting Mr. Adams's drawing of a new species of Somateria, of which several specimens were collected by that gentleman during the voyage of H.M.S. Enterprise. The large drawing exhibits the male and female, while the lesser drawing contains, in addition to the two sexes, the male in change. It will at once be seen that this species is very similar to *Somateria mollissima*, but is easily distinguished from it by being larger, and by a black mark on the throat, which is like the one found on that part of the *Somateria spectabilis*; and by the white longitudinal mark on the top of the head being narrower and thereby less conspicuous than that found on the head of *Somateria mollissima*; while the yellow on the sides of the head, which is tinged with green, extends below the black towards the eyes; the black is less rounded posteriorly. The bill of the male also differs by being orange-yellow with a white nail; while that of the female is dusky green as in the com-
mon eider. The feet of both sexes are brownish yellow. A specimen of this species was added to the British Museum Collection in 1851, which was collected during the voyage of H.M.S. Herald at "Kotzebue Sound." From the black mark on the throat, which is in the form of a reversed V, I have named the species *Somateria V-nigra.* (Pl. CVII.)

I take this opportunity of also exhibiting a beautiful drawing of the *Lampronetta Fischi* of M. Brandt (Pl. CVIII.), of which only one example was known to exist in collections, viz. in the Museum of the Academy at St. Petersburgh. Mr. Adams had the good fortune to obtain, not only the male, but the female, during the voyage, as also the young male in change which is exhibited in the smaller drawing. As the male has been well described and figured by M. Brandt*, it is unnecessary for me to repeat it; but as the female was unknown at that period, I will therefore point out the chief differences which it exhibits from its allied species. In general appearances it bears a great similarity to the female of *Somateria spectabilis,* but may be at once distinguished by the base of the culmen being feathered to beyond the nostrils and the space round each eye being paler than the rest of the head and speckled with minute spots of black; this space being the position of the white velvety spot round the eyes of the adult male.

M. Brandt’s specimen of the male was obtained from Norton Sound on the coast of Russian America, and I believe the pair now in the British Museum’s Collection was from the same locality.

I may observe that Mr. Adams had called the species, from the rich blue colour of the eyes, "Blue-eyed Eider Duck."

As M. Brandt’s subgeneric name of *Lampronetta* is so near *Lampronessa* of Wagler, it may be thought advisable to change it to *Arctonetta.*

2. NOTE ON THE GENUS *LEGRIOCINCLUS,* LESSON, AND ITS SYNONYMS. BY PHILIP LUTLEY SCLATER, M.A. ETC.

In his last published work on natural history, entitled ‘Description des Mammifères et Oiseaux,’ which is part of the series known as ‘Complement aux œuvres de Buffon,’ M. Lesson has elevated to generic rank by the name of *Legriocinclus,* a bird previously described in the ‘Annales des Sciences Naturelles’ (ix. p. 168, anno 1838) as *Petrodroma mexicana.* While lately in Paris I was favoured by Prince Charles Bonaparte with a sight of several volumes of very beautiful coloured drawings of birds and other animals of which M. Lesson in his lifetime had published descriptions only. M. Lesson’s descriptions, as is well known, are so short and often so inaccurate as to render identification of the originals almost impossible, and these drawings are therefore very valuable, and, as they are to be disposed of, will, it is to be hoped, pass into the possession of some public institution, where access to them may always be had. Among them

is a plate of the so-called Legriocincluus, which, there is no difficulty in perceiving at a glance, is a member of Lafresnaye’s genus Ramphocincluus, and so closely resembling the R. brachyurus, the type of that genus, as to leave little doubt that the two generic names are co-equal. But if Lesson’s locality is correct (Vera Cruz), which, however, I am hardly inclined to believe, the Legriocincluus mexicanus may possibly be a new species of this peculiar form—hitherto considered as confined to the Antilles, but thus extended geographically to the mainland.

Three species of Ramphocincluus only are given by Lafresnaye in his article in the ‘Revue Zoologique’ (1843, p. 67). Of the first of these—the type of the genus—R. brachyurus (Turdis brachyurus, Vieill. Nouv. Dict. xx. 253, et Enc. Méth. p. 655), the Paris Museum contains several fine examples from the islands of S. Lucia and Guadalupe. Vieillot says his bird was from Martinique, which is very probable, as that island is situate between the other two.

Upon reading attentively Lafresnaye’s description of his second species of the genus R. tremulus, I think there can be little doubt that if not absolutely identical with, it is at all events a very close ally of the bird, which Mr. Gould described in these Proceedings, as long ago as 1835, under the name of Stenorhynchus rufecauda. There are two specimens of this bird in the British Museum, from the island of Nevis.

Stenorhynchus, having been previously employed in Zoology, was changed by Mr. G. R. Gray in 1840 to Cinclocerthia.

Prince Bonaparte, in his ‘Conspectus’ (p. 223), has somehow or other confounded the third species of this same genus along with Campylorhynchus scolopacens of Spix which is quite a different form and is the type of the wren-like genus Campylorhynchus, and T hr y o t h u r o s longirostris of Vieillot, which he likewise quotes as synonymous, is, I believe, a true Thryothorus. Again, Zoothera cinclops of the same work (p. 253), since generified into Cinclops (Cinclops melanoleucus of Mr. G. R. Gray’s lately published List of genera), seems to be nothing more than a bird of this genus—probably R. brachyurus, though it is dangerous to draw positive conclusions from so meagre a description.

Under these circumstances I propose to reduce into one group, or at all events to place in close juxtaposition, the following six generic terms, some of which have hitherto been arranged in widely different families:—

4. Herminierinus, Lesson, ubi?
5. Legriocinus, Lesson (1847), Deser. d. Mamm. et Ois. p. 278.
Of these Mr. G. R. Gray’s name Cinclocerthia is the oldest that can be adopted.

Note.—Since writing the above, I have carefully examined the two specimens of Cinclocerthia ruficauda in the British Museum. They seem to agree in every respect with Lafresnaye’s description of Ramphocinclus tremulus, and, as the islands of Nevis and Guadaloupe are so near, I think we may reasonably conclude that these two birds are not specifically distinct. The rectrices are twelve in number, and not ten, as Mr. Gould supposed (P. Z. S. 1835, p. 186) might be the case.

The three species of this group ought therefore apparently to stand as follows:—1. Cinclocerthia ruficauda (Stenorhynchus ruficaudus, Gould; C. ruficauda, G. R. Gray; Ramphocinclus tremulus, Lafr.). 2. Cinclocerthia gutturalis (Ramphocinclus gutturalis, Lafr.); and, 3. Cinclocerthia brachyura (Turdus brachyurus, Vieill.; Ramphocinclus brachyurus, Lafr.; Zoothera cinclops et Cinclops melanoleucus, Bp.).

P. L. S.

3. Description of a newly discovered Tanager of the Genus Buarremon.
By Philip Lutley Sclater, M.A. etc.

(Aves, Pl. CIX.)

Through the kindness of Sir William Jardine I am enabled to exhibit a specimen of a very distinct species of Buarremon, which Professor Jameson of Quito has lately transmitted to this country. It was obtained by him during a recent expedition into the eastern Cordillera of the Andes near Quito at an elevation of 6000 feet above the sea-level. In form and size it is similar to B. pallidinuchus, but the style of coloration is different and more nearly resembles that of B. schistaceus. Sir William Jardine has named it leucopterus, from the conspicuous white spot on the wing. The area of the genus Buarremon appears to extend along the Andean range from Bolivia into Southern Mexico, the vicinity of Bogota being perhaps the principal sedes or focus, where no less than seven or eight species occur. The present bird may be characterized as follows:—

Buarremon leucopterus (Pl. CIX.).

B. schistacescenti-niger, alis caudaque obscurioribus; pileo ochraceo-rufo; macula utrinque anteoeculari et speculo alari conspicuo cum toto corpore subitus albis; lateribus in cinereum trahentibus; capitis lateribus nigris; tectricibus alarum inferioribus albis; rostro pedibusque nigris.
Long. tota 6·2; alæ 2·8; caudæ 2·7.
Hab. in rep. Equatoriana (Jameson).
EMBERIZA PIRACHEY, S & N.

Genus Otocoris, Bonaparte.

Otocoris longirostris, Gould, MSS.

Allied in colour to O. penicillata, and in the markings of the head and breast, but differs in its larger size, considerably more lengthened bill, wings and tail, and thicker toes; and in the feathers of the back being broadly centred with brown.

Length 7½ inches; of wing 5 inches; tail 3½ths; bill to frontal plumes ¼ths; to gape ⅛ths; tarsus ⅞ths; middle toe and claw ⅛ths; hind ditto ⅜ths of an inch.


Genus Emberiza, Linn.

Emberiza stracheyi, Moore.

Affined to E. Cia, but differs in having the markings about the head more broadly developed, and of a deeper black colour, forming three well-defined black bars, as seen laterally; the throat and sides of neck being whiter, and ashy on the front of the neck only, the breast and the rest of the under-parts being uniform bright rufous-brown, which colour is also prominent on the back, and especially on the scapulars, rump and upper tail-coverts.

Length 6 inches; of wing 3½ths; tail 3; tarsus ⅛ths of an inch.


Emberiza castaneiceps, Gould, MSS.

Also affined to E. Cia. Crown and ear-coverts deep chestnut-brown; superciliary streak, base of upper mandible, throat, front and sides of neck ashy white; behind the ears and nape ashy; a spot before the eye and streak from base of lower mandible down the sides of the throat black; back, scapulars, and rump rufous-brown, the two former having blackish centres to the feathers; wings dusky black, the feathers margined with rufous-brown; tail dusky black, the two centre feathers broadly margined with rufous-brown, the two outer tipped obliquely with white for nearly the whole length; breast and flanks rufous-brown, and paling towards the centre of the belly; upper mandible dark-horn, lower paler.

Length 5½ inches; wing 2⅝ths; tail 2⅝ths; tarsus ⅛ of an inch.


Genus Propasser, Hodgson, Gray’s Zool. Misc. p. 84 (1844); P. Z. S. 1845, p. 36.


Propasser thura.

Propasser rodopeplus, part. Hodgson.


This species may be distinguished from the true P. rodopeplus, by its rather smaller and a trifle more pyrrhuline bill; the colour of the male above being hair-brown, the feathers centred with blackish, and the lesser range of wing-coverts only being crimson-tipped; the under-parts, rump and upper tail-coverts, cheeks, forehead, and superciliary streak is pale silvery-crimson, the end of the latter and the centre of the belly being pure white; the crimson feathers of the head and throat being centred also with white, and the crimson colour being deepest at the base of the bill; whereas, in P. rodopeplus the male above is dark crimson-brown, and having both ranges of wing-coverts and the tertiaries pale crimson-tipped. The female of P. Thura (which is now for the first time described) may be distinguished from the same sex of P. rodopeplus by being paler above and having paler centres to the feathers; the colour of the under-parts being considerably more uniform; having also but faint centres to the feathers. P. rodopeplus is a trifle larger than P. Thura.

The Prince Charles Lucien Bonaparte has compared these specimens, and his Highness also verifies their distinctness.

Propasser pulcherrimus, Hodgson.


The male differs from P. rodochrous in having the forehead, superciliary streak, cheeks, throat, and under-parts, with the rump of a paler or more silvery-crimson colour, being in some lights very silvery; the upper parts, with the crown, are dusky-brown with pale crimson-tinged edges to each feather. The female differs from the same sex of P. rodochrous in having the under-parts dusky white, instead of rufescent, and above the colours are also less rufescent.

The size is the same as P. rodochrous, excepting that in P. pulcherrimus the wing is longer in both sexes.

Remarks.—Both sexes of this species and P. rodochrous were sent from Nepal by B. H. Hodgson, Esq., under the name of pulcherrimus, which name, upon examining his original drawings in the British Museum, we find refers to the true rodochrous and not to the present species; but, as that indefatigable naturalist applied the name to both birds, we deem it but correct to retain the same for the present bird.

Genus Linota, Bonaparte.

Cannabina, Brehm.

Linota brevirostris, Gould.


Allied to L. montium, but distinguished from that species by its lighter colour, and the male having the pink colour on the rump paler; the axillaries and the basal edge of the inner web of the primaries and secondaries pure white; the tail being margined on the whole outer and broadly on the inner web also with pure white; the primaries and secondaries above are also broadly margined exteriorly with white. The female is also paler and broadly edged as in the male with white.

Length 5 inches; of wing 3\(\frac{3}{4}\)ths; of tail 2\(\frac{3}{4}\)ths; centre feathers \(\frac{1}{2}\) inch less; bill to frontal plumes \(\frac{3}{4}\)ths; to gape \(\frac{1}{2}\) an inch; tarsus \(\frac{1}{6}\)ths; centre toe and claw \(\frac{4}{5}\)ths; and hind ditto \(\frac{1}{2}\) an inch.


5. New Genus of Fish-scaled Lizards (Scissosarce), from New Guinea. By J. E. Gray, Ph.D. F.R.S., etc. etc.

(Reptilia, PI. VIII.)

The Lizard which I have the pleasure of bringing before the Society this evening, was presented to the British Museum, with other most interesting and novel specimens, by Mr. John MacGillivray, who accompanied H.M.S. Herald as naturalist during her voyage in the Australasian seas.

Corucia.

Head broad, flat topped; nostrils ovate, oblique, simple, not prolonged behind, on the middle of the lower part of the nasal shields; supranasal shields none; rostral square; internasal one, large, 8-sided, broader behind; frontal-nasal two, moderate, band-like, transverse; lateral-frontal one small, subtrigonal, nearly equal-sided, frontal-parietals two rhombic, contiguous at the angle; interparietal one rhombic, elongate; eyebrows covered with band-like shields, lower eyelid with a series of larger opake scales; temple covered with large shields; ears large, simple, edged in front.

Body fusiform, compressed scales, 6-sided, smooth, with 3, 5 or 7 grooves, seen through the skin, of chin and underside of the body thinner, smooth.

Legs strong; toes five, cylindrical, elongate, unequal, with a series of band-like shields beneath; claws strong, curved.

Tail elongate, tapering, rather compressed, scales of upper like those of the back, but rather larger, with a central series of broad hexangular shields beneath.

Hab. Australasia.

This genus belongs to the same section in the Museum Catalogue as Ateuchoglossus, characterized by the simple nostril and scaled No. CCXCVIII.—Proceedings of the Zoological Society.
opake lower eyelids. It differs from that genus in the smoothness of the scales, the shielded underside of the tail and several other characters.

**CORUCIA ZEBRATA. (Pl. VIII.)**

Pale yellowish-white (in spirits); back with irregular blackish-brown cross-bands; upper part of limbs and tail blackish, varied; head dark-brown.

*Hab.* New Guinea, the Island of San Christoval, John MacGillivray, Esq., two adult and young specimens.

Length of adult nearly 2 feet.

6. ON **PANOPAEA ALDROVANDI, Lam.**

By S. P. Woodward, F.G.S.

The specimen of *Panopaea Aldrovandi*, preserved in spirits, and now

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**PANOPAEA ALDROVANDI, Lam.**

*(Chama glycineris, Aldr.)*

One fourth natural size.

- *a, a',* Adductor muscles.
- *p, p',* Pedal muscles.
- *r,* Position of renal organ.
- *t,* Labial tentacles, or palpi.
- *b,* Body.
- *f,* Muscular foot.
- *m,* Pallial muscle, or retractor of the mantle.
- *s,* Siphonal muscle.

The arrows indicate the inhalant, or branchial siphon, and the exhalant or anal siphon, communicating with the channels above the gills.

exhibited to the Zoological Society, was presented by Capt. Guise to
the Gloucester Museum, and was lent me for examination through the kindness of J. W. Wilton, Esq., of Gloucester.

This species is found at Sicily, and on the south coasts of Spain and Portugal; but not, so far as we are aware, at Mogador or the Canaries.

On the coast of Sicily, according to M. Philippi, it is rare, and only found between La Trezza and Aci Castello. M. H. Crosse, who purposely visited this locality, found a rocky beach in which it could not possibly live, and the only spot where the fishermen were acquainted with it was the village of Giardini, near the sandy bay of Taormina; even there only odd valves were procured, and he says it would be exceedingly difficult to obtain the animal on account of the absence of tides*.

Capt. Guise has favoured me with the following note:—

"The Panopea was collected, together with many of the rarest forms of Mediterranean Mollusca, by the Rev. L. Larking, on the coast of Sicily; the animal, when alive in a vessel of sea-water, was a most lively mollusk—slashing its siphons about, and discharging the water with the force of a piston."

There appears to be no description of the animal published. Philippi had not seen it, nor Valenciennes, at the time he wrote the monograph of the genus for Chenu's 'Conchological Illustrations.' Being the type of the genus Panopea, I was the more desirous of examining it, especially as British naturalists have taken their notion of Panopea from the British shell called "Panopea Norvegica"—which it now appears does not belong to the genus, or even to the same family, but must be referred to Saxicava amongst the Gastrochaenidae.

In P. Aldrovandi all the visible portion of the mantle and the long united siphons are clothed with thick, brown epidermis, striped with black, and very much wrinkled by the contraction of the animal in alcohol: it was impossible, without dissection, to see whether the orifices of the siphons were fringed as in Mya. The anterior gape of the shell exhibits an oval space, perforated in the centre by a small pedal orifice, scarcely large enough to admit the little finger.

By lifting up one valve and removing the portion of the mantle within the pallial line, the internal organs were seen and sketched.

The body is large and oval, suspended by four muscles whose attachments are close to those of the adductors; it is truncated in front, where it supports a small finger-like muscular foot; behind it is produced into a blunt point.

The oral palpi are triangular and pointed, but were probably larger and broader during life; they are deeply plaited inside, with a plain posterior border.

The gills are two on each side; the inner gills extend from the base of the respiratory siphon to the palpi, between which they are received; they are deeply plaited, the plaits being in pairs, and the lower edge of the gill is grooved. The inner dorsal margins are not

united to the body, so that the dorsal channels are only closed by
the apposition of the parts.

The outer gills are simpler in structure, being formed of a single
series of vascular loops placed one behind another; the free edge is
not grooved, and the gill terminates in front some way behind the
inner gill. The dorsal margin of the outer lamina is expanded be-
yond the line of suspension, and is fixed.

The gills of the opposite sides are united to each other behind the
body and to the branchial septum.

The whole structure is closely like that of Mya arenaria, the
chief differences being the shortness of the palpi, and the inequality
of the gills.

There are six other reputed species of recent Panopaea.

1. P. abbreviata, Val.; discovered by M. d'Orbigny on the
coast of Patagonia between the R. Negro and S. Blas. This shell
appears to have been again met with by the U. S. Exploring Expe-
dition, under Commander Wilkes, and is described by Dr. Gould as
P. antarctica.

2. P. zelandica, Quoy; of which an odd valve only was picked
up on the beach.

3. P. solandri, Gray; probably the same as the last.

4. P. australis, G. Sby. (Genera of Shells, pl. 40. f. 2), one of
G. Humphrey's shells from New South Wales; of which there is a
series in the British Museum, from Tasmania.

5. P. australis, Val. (not Sowerby's.)

This species is as large as P. Aldrovandi, and very like it. Being
quite distinct from the P. australis of Sowerby, it is proposed to call
it P. natalensis.

It was discovered in the sandy bays of Port Natal, by Capt. Cecile
and the officers of the French frigate 'Heroine,' who observed the
tubes of the shell-fish projecting through the sand at low water.

"The sailors endeavoured to draw the creature out of its habita-
tion by the tube, but in vain; for the siphons, after offering con-
siderable resistance, in every instance gave way, and often were with-
drawn entire, in spite of the grasp of its persecutor. Curious to
know the nature of the being which thus escaped them, they dug for
it with spades, and at length uncovered the Panopaea buried several
feet below the surface of the sand, and gregarious.*"

Pl. VI. f. 5. This species, of which the original and unique exam-
ple is in the Leyden Museum, is much like the fossil P. intermedia
of the London clay.

Exped.)

8. Panopaea norvegica, Spengler, is found throughout the
Arctic seas, from Behring's Straits to Newfoundland, the North Sea
and Russian Lapland.

I was so convinced of the affinity of this shell to the Saxicava, that
(in my Manual) I placed the latter genus next to Panopaea; it now

* Forbes, i. p. 174, from Valenciennes' Archives du Museum, t. i. 1839.
appears that I should have left it in its former place with Gastrochæna and have removed the Panopœa Norvegica to it. The shell differs from Panopœa in having the pallial line broken up or divided into a number of separate spots, and the animal has very long tapering gills, prolonged far into the branchial siphon.


The Geographical Distribution of the genus Panopœa affords an illustration of the rule, or "law," so earnestly investigated by the late Prof. E. Forbes,—that the range of genera, as well as of species, depends in great measure on their geological antiquity; and that when the members of a group are scattered over the greater part of the world, we may expect to find evidence of their existence in the intervening spaces during a former age. M. D'Orbigny describes 139 extinct species of Panopœa, commencing in the Permian age, and occurring in every part of the world where secondary or tertiary strata have been found.

7. Descriptions of Twenty-five New Species of Shells from the Collection of Hugh Cuming, Esq.

By Arthur Adams, F.L.S., &c.

1. Tudicla armigera, A. Adams. T. testa turbinato-fusiformi, epidermidie fulvicante induta, spira obtusiuscula, apice mammillato; anfractibus planis, in medio serie spinarum ornatis, spinis tubulosis, regularibus, subrecurratis, liris transversis, elevatis, squamulis, aculeatis instructis, et interstitiis lineis elevatis simplicibus; anfractus ultimo serie secundo spinarum ad partem anticam ornato; apertura ovali, intus alba, columella triplicata, canali recto producto; labro intus lirato.

Hab. Moreton Bay (Mr. Strange). Mus. Cuming.

This species is at once distinguished from the other known examples of Tudicla on account of the spiny armature of the whorls.

2. Fusus spiralis, A. Adams. F. testa fusiformi, tenui, albida, spira elevata, anfractibus spiralisibus, convexis, ad suturas contractis, transversim liratis, in medio angulatis, carina tuberculata et carina altera infima subimpressa instructis; apertura ovali, labio intus levi; labro intus sulcato, canali elongato, recto.


This is a beautiful and elegant spiral shell, very strongly reminding one of the young of some unknown species of Gladius (Rostellaria) with the whorls spiral, and where the outer lip is undeveloped.

3. Fusus dilectus, A. Adams. F. testa fusiformi, subventricosa, spira mediocris; fulvicaute, strigis irregularibus, fuscis longitudinalibus picta; anfractibus ad octo, convexissimis, supremis costato-plicatis, liris elevatis, transversis, crenulatis, majoribus cum minoribus alternantibus, interstitiis longitudinaliter crebre
striatis, apertura elongato-ovali, labio transversim corrugato; labio rufo-marginato, intus sulcata; canali longiore, vix testa
equante, subreflexo, ad sinistram curvato.

_Hab._ Venezuela. _Mus._ Cuming.

A very elegant _Fusus_ reminding one somewhat in markings, form, and sculpture of an elongated _Sycotypus_ (or _Ficula_).

4. _Fusus albinus_, A. Adams. _F._ testa ovato-fusiformi, subven-
tricosa, candida, spira mediocri; anfractibus octo, convexis, lon-
gitudinaliter costato-PLICatis, plicis, ad suturas, obsoletis, liris
transversis crebris cinctis; apertura elongato-ovali, labio _levi_
labro intus sulcata, canali mediocri recto, aperto.

_Hab._ Ichaboe, West Africa. _Mus._ Cuming.

This is a large, white, solid species with a moderately long beak, and with longitudinal, rounded, rib-like plïce which are obsolete at the sutures.

5. _Fusus assimilis_, A. Adams. _F._ testa elongato-fusiformi, ful-
vicante, epidermide tenui, fusco induta; spira elongata, acuta;
anfractibus decem, rotundatis, longitudinaliter plicato-costatis,
costi latis, medio subnodulosis, transversim valde liratis, liris
equalibus, subdistantibus; apertura parva, ovali, labio producto,
itus transversim rugoso; labro margine crenulato, intus sulcato;

_canali longiore, fere clauso, recto._

_Hab._ China Seas. _Mus._ Cuming.

Somewhat resembling in form and sculpture the _F. turricula_,
KIener, but the outline of the whorls is nodously unguulated.

6. _Fusus nodicinctus_, A. Adams. _F._ testa elongato-fusiformi, dilute _rufa_, _rufo-ferrugineo variegata_; spira elongata, acuta;
anfractibus convexis, transversim _liratis_, longitudinaliter nodoso-
plicatis, plicis in medio anfractum tuberculatis productis; aper-
tura ovali, labio transversim corrugato; labro intus sulcata, canali
mediocri, recto, aperto.

_Hab._ Australia. _Mus._ Cuming.

In this species the whorls are encircled with a series of conspicuous, rib-like nodules, and the shell is variegated with rusty-brown, of which there is a distinct transverse band on the last whorl.

7. _Amphiperas_ (Ovulum) _traillii_, A. Adams. _A._ testa elon-
gata, in medio angulata, carnea, albo marginata, lineis trans-
versis, impressis, obsoletis, cincta; apertura angusta, canalis
brevis, valde emarginati; labio intus _levi_, sulco longitudinali
instructo, postice tumido; labro in medio recto, transversim sul-
cata, extus albi-varicoso.

_Hab._ Malacca (Dr. Traill). _Mus._ Cuming.

This is an elongated species, somewhat angulated on the back, of a pale flesh-tint in some varieties, and of a deeper pink in others, and with the varix of the outer less white. In form it resembles, most closely, _O. formosum_, Sow., but that species is crossed with punctate, spiral lines.
8. **Polydonta marle**, A. Adams. *P. testa turbinato-conica, granulata, albida, rubro maculata ac flammulata; anfractibus convexiusculis, ultimo rotundato, plicato-noduloso, et, ad suturas, corrugato, granulis in seriebus permultis, aequalibus, regularibus, conflertis, dispositis, basi cingulis granosis exculpata, cavitate contorta, umbilicem mentiente, cingulo elevato, in dente unico terminato, exhibitente; labro intus sulcato.

**Hab.** — ? Mus. Cuming.

A very beautiful, finely-granulated species, with the last whorl rounded, and having many of the characters of *Clavicularus*, thus showing the close affinity of the two genera.


**Hab.** North Australia. Mus. Cuming.

Like the brown varieties of *D. scalaris* in size and general appearance, but the lamellae are sharper and more produced, the valves are more ventricose, the lunule is wide, deep and cordiform, the lozenge has rugose angulated ridges, and there is a broad purple streak in the interior of the valves.


**Hab.** Van Diemen’s Land (Mr. Gunn). Mus. Cuming.

A solid, rather compressed, and shining species, with the disk of the valves nearly smooth owing to the slight elevation of the striae; the colour is pale yellowish white.

11. **Dosinia lineolata**, A. Adams. *D. testa solida, subventricosa, cordato-orbiculari, nitida, albido-cinerascente, ad unbones rufescente, lineolis radiantis, interruptis ornata; concentrice plicata, plicis incrassatis, subimbricatis, glabratis; lunula profunda, cordata; umbonibus subincurvatis, anteveris, divergentibus; margine dorsali postico declivi, arcuato; area lanceolata profunda, marginibus elevatis angulatis lamellosis; intus alba; sinu pallii impressionis acuto.

**Hab.** Borneo. Mus. Cuming.

The hinge in this species is very thick, and the teeth are very strong; the interior is strengthened, near the beaks, with a callous deposit. The surface is prettily marked with fine, irregular, longitudinal lines.

12. **Dosinia trailli**, A. Adams. *D. solidiuscula, subcompressa, orbiculato-quadrata, alba, vix æquilaterali, umbonibus lævibus,
parvis, viex centralibus, lunula oblongo-cordata; concentrice striata, striis medio confertis, elevatiusculis, nonnullis utrinque obsoletis, alteris postice erectis, lamellatis, productis; area lanceolata angusta, marginibus regulariter lamellosis; margine dorsali declivo; margine neutrali producto, rotundato; intus alba.

Hab. Malacca (Dr. Traill). Mus. Cuming.

The striæ are alternately obliterated towards the sides, which produces a crowned appearance in the middle of the valves. Like D. Grunerii, Phil., it is strongly plicate at the lozenge.

13. Dosinia cydippe, A. Adams. D. testa solidiuscula, subventricosa, albida, ad umbones luteola, rotundato-cordata, concentrice striata, striis confertis, viex elevatis; longitudinaliter radiatim crebre striata, lunula oblongo-cordata, umbonibus levibus, area lanceolata angusta; intus alba; sinu pallii impressionis obliquo, profundo, apice obtuso.

Hab. Van Diemen’s Land (Mr. Gunn). Mus. Cuming.

This is a neat-looking species, without any great distinguishing peculiarity, except that, under the lens, the concentric, elevated striæ are finely engraved with radiating lines.


In this species the elevated concentric striæ are irregular, some being more elevated than the others; the posterior side of the shell is somewhat sinuated, and the sinus of the pallial line is very wide with an obtuse apex.

15. Dosinia dilecta, A. Adams. D. testa tenui, subventricosa, orbiculato-cordata, alba, lamellis concentricis, distantibus, tenuibus, postice productis erectis, ornata; interstitiiis nitidis, transversim striatis; lunula cordata, medio elevata; area lanceolata angusta, marginibus lamellosis; margine dorsali regulariter arcuato; intus alba.

Hab. Malacca (Dr. Traill). Mus. Cuming.

A very elegant species, of a delicate structure, with the lamellae thin and wide apart; the interstices shining and concentrically striated; and with the lozenge margined with elevated laminae.

16. Dosinia eunice, A. Adams. D. testa solida, compressiuscula, orbiculato-cordata, alba, nitida, radiatim obsolete sulcata, concentrice striata, striis confertis, elevatis, equalibus, utrinque erectis, sublamellacis; lunula triangularis, valide impressa, lamina cardinali producta, acuta, area lanceolata marginibus angulatis; intus alba; sinu pallii impressionis obliquo, profundo, angulato.

In this species the margins of the lozenge or ligamental area are acute, and the ligamental fossa is protected on each side by a produced lamina; the lunule is very deep and nearly triangular, and the concentric striae on the valves seem to be undulated on account of the impressed grooves which radiate from the beaks.

17. Lucina lactea, A. Adams. L. testa crassa, orbiculari, subventricosa, lactea, vix obliqua, concentrice lamellosa, lamellis distantibus, regularibus, interstitiis striis elevatis, radiantiis, et lineis transversis decussatis, umbonibus fere medianis, prominulatis; laterae antico rotundato, subtruncato, et subangulado; postico rotundato; cardinis dente apicali antico, lato, prominenti; intus incrossata alba, margine ventrali crenulato.

Hab. Swan River (Dr. Bacon); New Zealand (Mr. Strange). Mus. Cuming.

A peculiar species, having somewhat the aspect of a Corbis, but without any lateral teeth, and with the anterior primary tooth of one valve very broad and dilated.

18. Lucina (Codakia) munda, A. Adams. L. testa lenticulari, convexiuscula, equilaterali, albida, costulis radiantiis, dichotomis, ad latera diversicantibus, ornata; concentrice imbricato-striata; umbonibus medianis, minutis, anteversiis; lunula excavata, intus lutescente; margine ventrali radiatim sulcato; cardinis dentibus apicalibus duobus, divergentibus, lateralibus, validis.

Hab. Moreton Bay (Mr. Strange). Mus. Cuming.

A very neatly sculptured species, with dichotomous radiating ribs, and with the inner margin of the valves radiately grooved.

19. Lucina (Cryptodon) plicifera, A. Adams. L. testa subquadrate-ovali, equilaterali, subcompressa, sordide alba, epidermide fusca, tenui induta, concentrice plicata, plicis tenuibus, distantibus, laterae antico margine sinuato, sulco obliquo, ad marginem extendente, impresso; laterae postico obtuse angulato, margine subtruncato; lunula elliptica; cardinis dentibus apicalibus nullis, dente laterali antico instructo; intus alba.


This is a plicate species in which the primary teeth appear to be obsolete or wanting, and where there is only a single lateral tooth in each valve. This belongs to the form to which the name Cryptodon has been given.

20. Lucina (Myrttea) layardi, A. Adams. L. testa lenticulari, solida, convexiuscula, alba, equilaterali, costulis radiantiis, subnodoso-squamosis, ornata, concentrice sulcata, umbonibus minutis, centralibus, laterae antico costis imbricato-lamellosis, postico superne rectiusculo; intus candida, margine ventrali crenulato, intus radiatim sulcato.


In form and sculpture this species very much resembles L. (Myrttea) Strangei, but it is much more compressed, and the radiating ribs are more nodose than scaly.
21. **Lucina (Myrtlea) strangei**, A. Adams. *L. testa equilateralis, solida, ventricosa, lenticularis, albida, costellis radiantis nodosis-squamosis, sculpta, concentrica sulcata, umbonibus medianis, vix prominulis; intus incrassata, alba, margine ventrali crenulato, intus radiatim sulcata.*

**Hab.** Moreton Bay (Mr. Strange). Mus. Cuming.

In most of its characters this species approaches *L. (Myrtlea) Layardii*, but it is much more ventricose, and the radiating ribs are more imbricately squamose than in that species.

22. **Diplodonta globulosa**, A. Adams. *D. testa tenui, rotundata, subglobosa, vix obliqua, sordide alba, concentrica striolata, umbonibus submedianis, antevseris, latere antico superne excavato, postico rotundato; cardinis dentibus apicalibus duobus, divaricatis, subobsoletis, lateribus nullis.*

**Hab.** Moreton Bay (Mr. Strange). Mus. Cuming.

This species appears distinct from any hitherto described, although a great similarity runs through all the species of the genus.

23. **Yoldia gloriosa**, A. Adams. *Y. testa elongato-transversa, inaquilateralis, utrinque hiante, lactea, tenui, subpellucida, nitente, latere antico breviore, rotundato, linea impressa, obliqua ex umbonibus usque ad marginem ventrale, instructo; latere postico acuminato-rostrato; concentrica plicata-lirata, plicis tenuibus, confertis, postice obsoletis, antice distantioribus; margine ventrali sinuato.*

**Hab.** Singapore. Mus. Cuming.

A very large and splendid species, having somewhat the character of *Y. lanceolata*, Sow., but with the cartilage-pit nearer the anterior end, and with the fore part broad and rounded.

24. **Mactra pusilla**, A. Adams. *M. testa subtrigono-ovata, aequilateralis, tenui, nitente, concentrica striata, latere postico subangulato, area ellipitica longitudinaliter sulcata, latere antico longiore, subangulato; rosaceo-albida, maculis roseis radiatim dispositis, irregulariter picta; intus roseo variegata; umbonibus rubiginosis.*

**Hab.** Moreton Bay (Mr. Strange).

A small and prettily variegated species of *Mactra*, with the interior showing the rosy markings of the valves, and of a shining appearance externally.


**Hab.** Moreton Bay (Mr. Strange). Mus. Cuming.

This is a delicate glassy and fragile species, somewhat resembling in external appearance a *Yoldia*. The cartilage is in a projecting cavity of the hinge-plate, and there are no lateral teeth.
Dec. 11th, 1855.

Dr. Gray, F.R.S., in the Chair.

The following papers were read:—

1. Characters of Two New Species of Tanagers.
   By Philip Lutley Sclater, M.A.
   (Aves, Pl. CX.)

1. Dubusia auricrissa.


Long. tota 65, alae 3'6, caudae 3'0.

*Hab.* in Nova Grenada, Bogota.

*Obs.* Species *D. cyanocephala* simillima, sed rostro minore, colore dorsi flavescentiore olivaceo, capitis caeruleo magis extenso, ventre cerulescenti-que albescenti-cinereo, et tectricibus subularibus nec-non ventre imo crisseaque cum tibiis vivide aureoflavis.

Since compiling the list of Bogota birds, in which I have included this species under the name *Dubusia cyanocephala?*, I have examined D’Orbigny’s types of that bird in the Paris Museum, and find them so different from the present as to lead me to conclude that they are specifically distinct.

The present bird—which must be considered as the representative of *D. cyanocephala* in the mountain ranges of New Grenada—is common in collections from Bogota. The British Museum contains examples of both the species. Those of *D. cyanocephala* were procured by Mr. Bridges in Bolivia.

2. Iridornis porphyrocephala. (Pl. CX.)

*Tanagra analis,* Tschudi in Mus. Berolinensi.


Long. tota 5'6, alae 3'0, caudae 2'2.

*Hab.* in Nova Grenada et rep. Equatoriana.

*Obs.* Affinis *Iridornithi analis,* sed capite dorsoque summo purpurascens, pectore purpurascente et ventre viridescent e facile distinguenda.

When at Berlin in 1854 I first noticed a specimen of this Tanager, which is in the Museum there under the name "*Tanagra analis, Tschudi.*" But having just before that had the opportunity of examining type specimens of the latter bird in the collections of Bruxelles and Bremen, I saw at once that the present was to all
appearances a distinct although closely allied species, and accord-
ingly assigned to it a new name in my MS. At Neufchatel I
again saw Tschudi's analis (the types described in the Fauna Peruana
being contained in the Museum at that place), and I was also so
fortunate as to obtain by exchange, through the courtesy of M. Cou-
lon, the Directeur of the Museum there, a duplicate example of
that species. Upon comparing this with a skin lately received by
Mr. Gould along with other birds from the neighbourhood of Quito,
I find the same differences as I had previously noted in the Berlin
Museum specimen; and, fortified by a second example, no longer
hesitate to introduce the bird as new to science under the title of
Iridornis porphyrocephala.

2. Descriptions of (supposed) New Species and Varieties
of Shells, from the Californian and West Mexican
Coasts, principally in the Collection of Hugh
Cuming, Esq. By Philip P. Carpenter.

1. Pandora clavicularata.

P. t. magna, complanata, alba, epidermide fusca induta; antice
curtissima, postice valde rostrata; rostro lato, valde proficienciente,
sulco in utraque valva ab umbone currente; concentrica undulata;
margine ventrali maxime excuvato; margine dorsali postico sub-
irregulariter arcuato; cardine lira (quasi clavícula) ligamentum
ferente praelonga, dimidium ab umbone rostrum versus decurrente;
dente antico satis producto; valva dextra denticulo tertio inter
alios munita; cicatricibus muscularibus, antica rotundata, postica
ovali, a margine valde distantibus, inter quas punctularum catena;
aliter pagina interna haud punctata.

Long. 1°23, lat. 1°78, alt. 22 poll.

Hab. Mazatlán: legit "Conway Shipley, Esq.", olim Lieut. R.N.
Mus. Cuming.

This magnificent species differs from similar forms found in the
Philippines and New Zealand, in having the fold much larger, with
the dorsal margin less arcuated. In form it closely approximates
the Californian species, P. punctata, Conr.; but differs in the
absence of punctures (except at the pallial line), and in the remark-
able character of the hinge. In P. punctata, the ligament is (in one
valve) affixed to the outer margin, which is bent upwards to receive
it at right angles; in this, there is a sharp internal ridge, or clavicle,
fully one half of the entire length from the umbo to the beak, at the
base of which the ligament is situated.

2. Lyonsia (Osteodesma) diaphana.

L. t. valde inequilaterali, irregulari, sed plerumque pyriformi; al-
bida, tenuissima, translucida; epidermide nitida, albo-fusca induta;
parte antica parba, satís excuvata; parte postica maxime pro-
longata, margine dorsali incurvato; margine ventrali excuvato,
plerumque plus minusve hiante; appendice ligamenti calcarea pro-
longata.

Long. '56, lat. '92, alt. '34 poll.

Hab. Mazatlan: legit C. Shipley, Esq. Mus. Cuming, Archer,
Darbishire, &c.

A small species, nearly as glossy as O. nitidum, Gould, from Cali-
ifornia. In form it resembles L. cuneata, Gray, but is of a much
lighter colour and thinner texture, and is not truncated at the anterior
margin. The specimens brought by — Thorne, Esq., Paymaster of
the Navy, vary greatly in the amount of pedal gape, which in most
of Lieut. Shipley's specimens is scarcely perceptible.

3. **Periploma excurva.**

*P. t. "P. Leane"* simili, sed minus inaequilaterali, margine ventrali
maxime excurvato, postice et antice magis hiante, minus equi-
valva, fossa cardinali et clavicula gracilioribus; magna, tenui,
ventraliter arcuata, striis incrementi graciliotis; epidermide tenu-
issima, viz antice rugosa; cicatricibus muscularibus et pallii mar-
gini appropinquantibus, sinu modico, subtriangulato.

Long. 2-06, lat. 2-46, alt. 1-03 poll.

Hab. Mazatlan, teste Dr. Grüner. Mus. suo.

A very fine species, differing from *P. Leane*, Conr. (not to be
confounded with Cochliodesma Leana), and from *P. argentaria,
Conr.*, in being much less inaequilateral, with the ventral margin well
rounded.

4. **Periploma papyracea.**

*P. t. suborbiculati, inaequilaterali, inaequivalva; parte postica bre-
vissima, rostrata, rostro curto, lato; tenuissima, diaphana, albidu;
superficie striis incrementi tenuibus, lineas radiantes luc et illuc
vix monstrante, granulis minimis induta, epidermide tenuissima;
umbonibus prominentibus; marginibus ventralibus et dorsalibus
antis subaequaliter excurvatis, postiscis subincurvatis; fossa car-
dinali parva, solida, clavicula solidiuscula; sinu pallii ore angus-
tiore, intus lato, vix angulato.

Long. '78, lat. 1-06, alt. '42 poll.


A perfect valve, and a broken pair displaying the hinge in situ, are
all that are known of this beautiful species. It differs from the
others in its outline, the greater part of which is suborbiculat, with
a short broad beak.

5. **Thracia squamosa.**

*T.t. "T. villosisculæ"* simili, sed magis transversa; superficie
granulis distinctioribus instructa; ligamento extus curtiori, intus
fulcro majore, minus declivi; sinu pallii angustiore, magis pro-
ducto.

Long. '72, lat. 1-14, alt. '38 poll.


Remarkably like the British species, from which it differs,—in the
shape, which is rather more transverse, lengthening the pallial sinus; in the external granules, which are somewhat coarser; and in the ligamental pit, which is rather larger, and therefore at a greater angle from the margin.


? *S. t. candida,* tenui, sublevi, striis incrementi exilimis, confertis; autice et ventraliter maxime producta; margine anteriore bene excavato, postico valde undato, ventrali subincurvato; umbonibus prominentibus, appressis; lunula indistincte impressa; ligamentis, externo magno, interno minimo, alteri adjacenti; dentibus cardinalibus duobus, quadrum alter bifidus, alter minus; cicatricibus muscularibus, antica elongata, angusta, marginem ventrali appropinquante; postica subquadrata. intus undulata; sinu pallii maximo; pagina interna cardinem versus undulata.

Long. 1'45, lat. 1'88, alt. 7 poll.


Resembles *S. angulata,* Chem., but differs in the great production of the anterior ventral portion, in the development of the wave, and in the length of the external ligament. This and the following species form connecting links between *Scrobicularia* and *Tellina.*

7. *Scrobicularia biangulata.*

? *S. t. suborbiculari,* subaequilaterali, convexiuscula, striis concentricis vix regularibus, postice undata, angulis duobus subobsoletis; ligamento externo tenuissimo, in sulcos alte impresso, semi-interne sito; ligamento interno fossa trigonali scalena sito, alteri adjacenti; dentibus cardinalibus in utraque valva duobus, contiguis, vix radiantis; cicatricibus muscularibus subovalibus, sinu pallii maximo; alba, intus aureo tincta.

Long. 1'5, lat. 1'78, alt. 8 poll.


Differs from *S. producta* in form and texture, and also in the comparative size of the external ligament, which in this species is situated in a semi-internal furrow.

8. *Donax semistriatus.*

*D. t. parva,* valde transversa, tumidiore; parte superficii antica levii, nitida; reliqua concentrica sulcata, sulcis impressis, interdum bifurcatis; striisque radiantis evanescentibus, sulcos punctantibus; sulcis in parte postica valde celatis; aureo-fuscus, ad umbones rubro-fuscus radiatus; margine simpliciter crenulato.

Long. '4, lat. 8, alt. '2 poll.

Hab. in Sinu Californiensii. Mus. Cuming.

Somewhat resembles *D. pulchellus,* Hanl., but differs in the markings, the anterior third of the surface being quite smooth, while the remainder is furrowed with rather distant concentric lines, ending suddenly, and slightly indented by evanescent striule.


*D. t. subquadrata,* valde inaequilaterali, antice brevi; tenui, albo-
flavescente, epidermide tenuissima; striis incrementi exilimus, ligamento subexterno; dentibus cardinalibus parvis; lateribus antico in utraque valva acuto, postico subobsoletis; cicatricibus muscularibus, antica a cardine remota, elongata, intus crenulata; postica irregulariter pyriformi; linea pallii margini appropinquante.

Long. .76, lat. .89, alt. .57 poll.


In shape like Lucinopsis undata; remarkable for the anterior lateral teeth.

10. Chiton montereyensis.

C. t. ovata, subelevata (ad angulum 120°), sublævi; olivacea, valva utraque ad jugum rubro-fusco maculata, lineis tenebrosioribus valvis intermediis subradiantibus, valvis ultimis radiantibus; valvis intermediis lineis diagonalibus subdistinctis, ad marginem subquadратris, suturis conspicuis; areis lateribus lineis paucis radiantibus obsoletis; tota superficie punctulis creberrimis conferta, subobsoletis, maxime ad areas laterales; mucrone vix prominente; limbo coriaceo, ad marginem et in suturis piloso, setis planatis, curavis, incurvatis; intus valvarum marginibus haud valde arcuatìs, sinu parvo, ad jugum subimpresso.

Long. 2-4, lat. 1-42, alt. .45 poll.


Margin with numerous but not crowded, short, incurved, horny, flattened hairs; shell very finely sculptured, dark olive, with very dark rays slightly diverging from the summit of each valve, and very conspicuous on the terminal one. The jugum is stained in each valve with sienna.

11. Chiton hartwegii.

C. t. ovata, subelevata (ad angulum 125°), sublævi; olivacea, macula nigra in utroque jugi latere picta; valvis sine lineis diagonalibus, partim detritis, lineis incrementi conspicuis, tota superficie minutissime irregulariter subgranulosis; marginibus rotundatis, suturis magnis; limbo tenui, granulis minimis, confertissimis, irregulariter munito; intus valvarum marginibus arcuatis, lobis prominentibus, sinu lato, haud alto; ad jugum vix impressus.

Long. 1-26, lat. .76, alt. .18 poll.


A much smaller shell than the last, almost destitute of sculpture; with a blackish spot on each side of the jugum, but no radiating lines.

12. Chiton nuttalli.

C. t. "Chitoni Hartwegii" simili, sed latiore, depressa (ad angulum 130°), superficie granulis majoribus, maxime marginem versus;
marginibus quadratis, suturis nullis; intus valvarum marginibus valde arcuatius, sinu lato, alto.

Long. 1°05, lat. '8, alt. '24 poll.

_Hab._ Monterey, cum præcedentibus; legit idem diligentissimus, et olim, primus in eas oras perscrutator; clarissimus T. Nuttall._ Mus. Cuming et Nuttall.

A small specimen in Mr. Cuming's collection was passed over as the young of _C. Hartwegii_; but a fine one in Mr. Nuttall's collection distinctly displays the points of difference above indicated, which at present appear of specific value. This specimen has much the appearance of a young _Ch. articulatus_, but differs essentially in the character of the ligament.

13. **Chiton regularis.**

_C. t._ _elongata_, _elevata_ (ad angulum 110°), _fusco-olivacea_, _jugo acuto_; valvis intermediae lineis diagonalibus haud conspicuis; areis lateralis et valvis ultimis strigis radiantis, areis centralibus strigis longitudinalibus, parallelis; mucrone parvo; marginibus valvarum subrotundatis, suturis modicis; limbo squamoso, squamis oblongis, irregulariter tessellatis; intus valvarum marginibus haud valde arcuatius, sinu lato, haud alto; ad jugum linea impressa.

_Long._ 1°1, lat. '58, alt. '25 poll.

_Var._ T. _caerulea_, _strigis prope marginem subgranulosis._

_Hab._ Monterey; sub saxis legit — Hartweg. _Mus. Cuming._

A very similar species, but with larger scales on the margin, is from New Zealand, and at present undescribed in the Cumingian Collection.

14. **Chiton acutus.**

_C. t._ _ovata_, _valde elevata_ (ad angulum 105°), _tenui_; _olivacea_, interdum maculis tenebriosioribus; lineis diagonalibus vix monstratibus; areis lateralis et valvis ultimis tenuissime granulosis, granulis longis, irregulariter radiantis; areis centralibus isdem lineis longitudinalibus undatis instructis; marginibus valvarum subquadratis, suturis parvis; _jugo acuto_, _mucrone inconspicuo_; limbo angusto, sublcevi, _tenui_; intus virescente, valvarum marginibus et _jugo impresso albidis_; valvarum marginibus vix arcuatius, _sinu parvo_, _inciso._

_Long._ '9, lat. '5, alt. '2 poll.

_Hab._ Sta. Barbara: olim legit T. Nuttall. _Mus. suo._

A very sharply angled, thin, delicately marked species, with extremely thin margin, and the edges of the valves deeply cut within.

15. **Chiton ornatus,** Nutt. MS.

_C. t._ _subrotundata_, _depressa_ (ad angulum 130°), _fusco-olivacea_, utraque parte _jugi_ tenebrosius maculata; lineis diagonalibus, et in ultima valva lineis x. radiantis, nodulis validis instructis; areis lateralis et valvis ultimis nodulis radiatim instructis; areis centralibus lineis nodulosis longitudinalibus, _vix undatis_, _interstitiiis alte decussatis_; valvarum marginibus subquadratis,
suturis parvis; macrone vix monstrante; intus virescente, rufo
fusca; marginibus valvarum valde sinuatis, sinu angulato; ad
jugum vix impressa; limbo valde piloso, setis longis, fortibus,
incurvatis.

Long. 1·03, lat. 8, alt. 22, poll.
Hab. San Diego; olim legit T. Nuttall. Mus. suo.
The sculpture of this species is very strongly marked; the mar-
ginal hairs rather long, short and crowded *.

P. t. valde depressa, oblonga, diaphana; colore corneo, fusco-pur-
pureo irregulariter flammato; liris circiter xxii, tenuissimis, inter-
stititis obsolete striatis; apice subprominente, circiter quinta parte
longitudinis sita; pagina interna valde iridescente.
Long. 1·38, lat. 1, alt. 28, poll.
This shell appears to agree with P. toreuma, Rve., in all essential
respects; but instead of the fine regular strie of that species, there
are a few delicate principal ribs, with obsolete striæ between. As its
neighbour, P. Oregona, sometimes develops large ribs, and is at
other times nearly smooth, this has not been considered a sufficient
difference to constitute a species, until more is known of its variable
powers.

This shell, marked "Gulf of California," Mus. Cuming, but with-
out authority, differs essentially from G. manuillaris, Brod. (=regu-
laris, C. B. Ad.), and is not to be distinguished from the British
specimens of G. Sinensis, except by the colour, and by a few irreg-
ular diagonal lines here and there, which are probably an individual
peculiarity. In the collection of R. M'Andrew, Esq. are several
specimens of the true G. Sinensis from the Mediterranean, of an
equally dark colour. It is impossible, therefore, to found a specific
distinction on this circumstance alone. It is here described in order
to direct the attention of collectors in that region to the subject. It
would be very remarkable should the species be proved to inhabit
so remote a locality. The specimen in question may have been
imported.

18. Galerus subreflexus.
G. t. irregulari, conica, rufo-fusca, radiatim tenui-striata; striis
aculeatis; sutura impressa; vertice involuto, apice depresso;
lamina interna apicem versus ad duas trientes reflexa, umbilicum
magnum monstrante, margine dilatata, haud angulata.
Lat. 75, alt. 4, poll.

* The specimens described not being my own property, I did not dare to ex-
amine the insertions of the valves with a view to determine the genus. It is pos-
sible that some of these species have been already described by Dr. Gould in the
Expedition Shells (pp. 5, 6), the plates to which are, alas! not yet published.
No. CCXCI.—Proceedings of the Zoological Society.
Differs from *G. striatus*, Brod. (which must not be confounded with *Dispotea striata*, Say), in its much more delicate, irregular, finely spinous striae; and in the form of the internal laminae, which in this species is reflected back over two-thirds, in *G. striata* over the whole, forming a much larger umbilical region. The vertex of this shell is rather prominent, and is formed like a tumid *Planorbis*, with a sunken apex.

19. **Fissurella nigrocincta**.

*F. t. ovali, lata, conica; alba, lineis nigris radiantiibus eleganter picta; striis radiantiibus tenue calata; apertura subcentrali, obscure trilobata; intus alba, margine tenue crenulato, denticulis nigris; callositate alba, linea nigra cincta.*

Long. '75, lat. '52, alt. '3, poll.

Differs from the young of *F. alba* in its greater breadth, less compressed growth, finer striae and crenulations; from *F. nigropunctata*, in the black line round the callosity; and from both in the form of the hole, which is trilobed, not contracted in the middle.

20. **Callopoma (Turbo)? fluctuatum, var. depressum.**

*C. t. valde depressa, anfractibus v., quarum ultimus tumidus, sutura impressa; liris spiralihus circiter xxx., quarum plerumque v. majores sunt, subrugosis; viridi, punctis albis transversim in liris subirregulariter dispositis; apertura ad basin posteriusque producta; columella paulum excavata, non umbilicata.*

Long. 2°02, lat. 2°04, long. spir. '78, poll.; div. 110°.


*Syn.* Turbo fluctuatus, var., Rve. Conch. Ic. pl. viii. f. 34.

Among many hundred specimens examined of the true *C. fluctuatum* from the Mazatlan Collection, there was not one approaching this shell. Nevertheless, as there is in the British Museum a somewhat intermediate form, it may possibly be a variety of that species. The operculum is unfortunately wanting in Mr. C.'s specimens: until that has been examined, the point must remain in abeyance.

21. **Litiopa divisa.**

*L. t. parva, anfractibus ix., quarum vi. primi subturriti, liris transversis striisque spiralihus decussati, ultimique tres sublaves sunt, tumidiores, striulis plus minusve appressis, spiralihus, maxime ad basin, tenuissime ornata; nonnullum lineae suturam impressam subeunte; subdiaphana, fusca; labro acuto; labio vix monstrante; columella truncata, infra maxime undata.*

Long. '13, lat. '06, long. spir. '07, poll.; div. 30°.


This is the only species hitherto recorded from the west coast of N. America; the *?L. saxicola* of C. B. Ad. not belonging to the genus. Exactly the same species was taken in abundance "among small drifted canes, Straits of Sunda," Mus. Archer. It is remarkable for the different character of the first six and the last three
whorls; the decussated portion suddenly becoming smooth, the joining whorl being often irregular in growth.

22. SCALARIA REFLEXA.

S. t. turrita, anfractibus x. valde disjunctis, levibus; varicibus in anfractu utroque v. magnis, valde prominentibus, ad marginem reflexis, supra in spira brevi semitubulari productis; lineis varicibus subspiralibus; vertice levii; apertura circulari, ad basin haud umbilicata.

Long. '6, lat. (spinas includens) '21, long. spir. '45, poll.; div. 40°.


Most nearly allied to S. mitraformis, Sow., and remarkable for the large size of the varices, which are reflexed, and produced at the shoulder into a semitubular spout. The varical lines make about one revolution from the apex to the base. In the very young shell the varices are not shoulderied, and are more numerous.

3. DESCRIPTION OF TWO NEW SPECIES OF ACTINIA, FROM THE SOUTH COAST OF DEVON. BY E. W. H. HOLDSWORTH.

(Radiata, Pl. V.)

Among various species of Actinia collected by me in July last, on the south coast of Devon, two appear to be undescribed, and although of small size, are of some interest in being additions to the fast increasing list of our native zoophytes.

They were found on the rocks near the entrance to Dartmouth harbour, a part of our western coast, which, from its steep rugged character and its luxuriant growth of sea-weeds, presents a fruitful hunting-ground for those in search of marine productions.

The first that I have to notice may be thus characterized:—

Body smooth and cylindrical when fully extended, from half to three-quarters of an inch in height, but very much flattened when contracted; tentacula in four rows, moderately long, slender, and slightly tapering towards the tips, their length regularly diminishing from those of the inner circle outwards. The entire animal has a pale transparent appearance, and the only trace of decided colour about it is found in a narrow dark blue line surrounding the base of each tentaculum, and extending a little in the direction of the mouth, but soon becoming indistinct. Very delicate white lines are at times visible on the surface of the body, but these are probably only the edges of the membranous septa seen through the transparent skin. When this animal is at all roughly handled, the long seminal filaments are thrown out from the mouth in great profusion. This little anemone approaches very closely in many respects the Ac. candida of Mr. Gosse, and I am indebted to that gentleman for his ready assistance in determining the differences between them. Ac. candida may be distinguished by its possessing fewer tentacles, by the colour
of the body being of a more opake white, and especially by the narrow
lines surrounding each tentaculum being of a reddish-purple tint, and
enlarging into a conspicuous spot on each side of its base. In their
habits and general appearance they are very much alike, and had I
obtained only one example of the pale species, I should hardly have
ventured to consider it more than a variety. Ten specimens, how-
ever, were taken from different places, and did not vary except in
size; they were found on the exposed surface of perpendicular rocks
at about half-tide mark, and when out of the water and contracted,
were very difficult to distinguish, owing to their great transparency.
I propose for this species the name of pallida.

It has been my custom, after any expeditions in search of Actiniaæ,
to bring home one or two plants of Laminaria digitata, in order to
examine at my leisure the various forms of animal life commonly met
with among their tangled roots; and it was on one of these plants I
found, in company with minute Ophiocomaæ, green Nereides and
numerous other animals, the beautifully marked anemone that I have
now to describe.

It has the following characters:—

Body elongate, cylindrical, about three-quarters of an inch in length,
when extended, the upper half covered with numerous pale perforated
warts, increasing in number as they approach the top, and from
which the white filaments are protruded when the animal is irritated.
Tentacula in five rows. Colour of the body a dark orange, becoming
paler towards the base. This species is chiefly remarkable for the
beauty of its oral disk, which for colouring and elegance of marking
will bear comparison with that of any of the larger kinds. The external
half of the disk is of a rich purplish-brown, changing into a light
orange tint towards the mouth, the pink tumid lips of which are
frequently conspicuous; from near the centre diverge ten or twelve
pairs of yellow bands slightly separating as they proceed outwards,
and at their extremities partially surrounding the bases of the tenta-
cula, according to the following arrangement. Taking a small seg-
ment of the disk, the first tentacle may be said to arise from the
space between two pairs of bands, the second being situated within
the pair; the band bifurcates near its extremity, and encloses the
third tentacle; these branches again divide and form a similar enclo-
sure for the arms of the fourth row: beyond these is a set of very
short tentacula; these, as far as I have been able to examine them,
are not connected with the yellow bands, but their small size and the
difficulty of seeing their entire length when the animal is expanded,
render it almost impossible to describe their exact appearance. On
the surface of the disk a cream-coloured spot is situated near the
base of each tentacle of the first and second rows, those connected
with the inner series being farther removed from them than those of
the second; the alternation of light and shade produced by this
arrangement gives a battlemented appearance to the disk, and adds
considerably to the general effect. The tentacula rapidly diminish
in size from those of the inner row outwards; they are dark brown
at the bases, becoming paler towards the tips, and are encircled by
three well-defined white rings, of which the basal ones are very distinct. Several examples of this species were obtained at extreme low water-mark, from a large mass of detached rocks known as the Mewstone, near the entrance to Dartmouth harbour. They were met with on two or three occasions, but were always found nestling among the roots of *Laminaria digitata*.

A few weeks since, part of a plant of *Laminaria* was sent to me from Devon, and among the roots I found six specimens of an *Actinia* that closely resembled the one just described, excepting that the brown on the tentacula and certain parts of the disk was replaced by various shades of red. These animals differ so little, except in the general colour of the disk and appendages, that until I have an opportunity of examining some more specimens, I must consider the red one as only a variety of the other, and as such I would provisionally describe it. This uncertainty obliges me to depart from the old-established rule of giving the specific name from some marked character in the animal, and I must therefore propose the more general title of *ornata* for the brown species, and suggest that of *rubida* for the red one, should it on future examination prove to be distinct, which I am inclined to think is probable.
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